Indus Script Deciphered

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M.V.N. Krishna Rao

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M.V.N. KRISHNA RAO

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Dedicated
to
MY PARENTS

Preface

It was in the year Nineteen hundred sixty-nine, a breakthrough in the decipherment of the Indus Script could be achieved by me on the basis of the principle of acrophony and the same was immediately announced to the world. Most of the elites received this news with great jubilation.

The matter presented in this book is a sequel to my first attempt. It took nearly twelve years of hard labour to place before the world the results of my further researches and results in the matter of the hitherto undeciphered Indus writing. The main reason for this inordinate delay is that I had to undertake this great work singlehandedly, braving all scorns and hardships and without any co-operation or encouragement from the philanthropic institutions.

I, however, feel gratified that I have achieved my object by placing before the world the complete decipherment of the Indus Script, solving most of the baffling problems that have engaged the attention of the scholars throughout the world.

A research work, however sound its logic may be, cannot be taken as final and hence needs constant revisions, checks and confirmations, particularly in view of the fact that our knowledge is increasing every day by leaps and bounds.

I hope the reader will be kind enough to forgive me for any errors and omissions committed inadvertently in bringing out this book. I shall be thankfull to those who would enlighten me with their constructive criticism.

I am grateful to the Director General, Archaeological Survey of India for permission to reproduce the seals and sealings from the Departmental publications.

I am thankful to Shri Agam Prasad of the Agam Kala Prakashan, Delhi for bringing out this book in such a short time.

Amaravati
22nd January 1982

M.V.N. KRISHNA RAO

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1

Introduction

INDUS SCRIPT

Our knowledge of the existence of the Indus Script dates from the year 1922 when archaeologists had started collecting antiquities belonging to an unknown culture in India. Many bold attempts have been made by several scholars to read the script ever since its discovery but these have not given us any encouraging results. Though some progress about the nature and direction of writing of the script has been made,[1] no one has so far read a single inscription correctly.

In the circumstances, the only hope is the discovery of a bilingual inscription which alone can solve the mystery, for it is impossible to read authoritatively the inscriptions written in an unknown language and script.[2] Till we shall discover such a bilingual seal the alternative left to us is to continue our search for the other clues that will enable us to make a headway, and this is the very objective of the present book.

Previous Work

It is relevant to mention here about the important work done previously by some great scholars in this field of study.

C.J. Gadd and Langdon classified the signs and prepared an elaborate sign list. Sir John Marshall[3] was the pioneer who initiated the study of the Indus Civilization.

---

1. Lal, B.B., The direction of writing in the Harappan Script, *Antiquity*, 40, 1965.
2. Cottrell, Leonard, *The Bull of Minos*, Pan Books Ltd., London, 1963, p. 209.
3. Marshall, Sir John, *Mohenjo-daro and Indus Civilization*, Vols. I to III, London, 1931.

Without this previous work, surely my attempts would have been very difficult. G.R. Hunter[1] also formulated certain theories as to the possible nature of the signs and their relation with other scripts like Sumerian, etc., and the contents of the seals, which helped me greatly to proceed further on the subject. He suggested that the language might be monosyllabic and the script phonetic. On the whole, mojority of these scholars like Gadd, Langdon, Hunter agreed that the script was basically syllabary and it was written from right to left. Opinion was divided as to the language of the Indus people. Some maintained that it was Dravidian or Munda group, while the others held that it was Aryan. Father Heras[2] and the recent Russian Scholars[3] showed by way of linguistic analysis of the signs on the basis of their occurrence in combination and in certain positions as end, beginning and middle that it might be proto-Dravidian. Yet all these attempts were based on assumptions.

Speculation, especially where the problem is of peculiar nature and no clue is apparently perceptible to take up to progress on the road which leads us to the truth, is perhaps, permissible as a step towards discovery. While attempting to solve the problem, I could find no other way than resorting to a scientific guess based on simple logic which ultimately brought me a bountiful of clues and the present book is its harvest. I gratefully acknowledge my debt to all the elders in the field who actually equipped me variously to take up the problem of such a magnitude.

INDUS CIVILIZATION

Extent

Dr. R.D. Banerjee first brought to light the ancient civilization at Mohenjodaro in the Indus valley. Sir John Marshall conducted excavations in 1922 and his report was published in three monumental volumes. Further excavations were carried out at Mohenjodaro by Earnest Mackay in 1930, and Madho Swarup Vats in 1939 at the site Harappa. Later on many archaeologists explored new sites yielding pre-Harappan, Harappan and post-Harappan cultures as well.

Of late, some of the typical sites representing each phase of the civilization in time and space, have been excavated by American, British and Indian archaeologists like Dales, Wheeler, F.A. Khan, S.R. Rao, Lal and Thapar, and J.P. Joshi. These include Mohenjodaro, Harappa, Kot Diji, Lothal, Kalibangan and Surkotda. Lothal being a port-city reveals the seafaring activities of the Harappans and their trade contacts with several contemporary civilizations.

The latest available information reveals that the Indus Civilization covered a vast region extending on the East-West axis a thousand miles from Alamgirpur to

1. Hunter, G.R., *The Script of Harappa and Mohen-jodaro*, London, 1934.
2. Heras, H., Vide bibliography.
3. Knovozov, YW. V., Volcock, B. Ya and Gurov, N.V., *Proto-Indica*, Tokyo, 1968.

Sutkagendor and on the North-South axis from Rupar to Bhagatrav, another thousand miles approximately. No other ancient civilization could boast of such a vast distribution in space as claimed by the Indus Civilization.[1] Moreover, it had nearly 800 miles of seaboard along the West Coast.

Chronology

The seals and sealings recovered from the above sites and the recent C^{14} datings give us a rough idea of the duration of the civilization to be from the beginning of the 3rd millennium B.C. to the middle of the 2nd millennium B.C. We have come to know the salient features of the Indus Civilization on the basis of the architectural features of its cities and the other material culture. These provide us with some clues to the riddle of the script for analytical study.

Trade Contacts

We are certain now about one thing that this civilization did not stand isolated. It had its contacts, trade and other sorts, with the sister civilizations abroad. The available antiquities such as, seals, pottery, beads, etc., also prove these contacts. The contemporary Sumerian records mention that the trade commodities consist of carnelian, timber, peacock, etc., from Dilmun, Melluha and Magan.[2] At least one out of the three names is considered to be the Indus city. In Indus seals we notice certain signs which are analogous to Sumerian, Egyptian, Cretan, Cypriote, Phoenician, Ogam, Brahmi, Runic, etc. The occurrence of the similar signs in different scripts of the world is not accidental, but it is because of their close contacts through trade. Its diffusion later in time and space, should only indicate a common ancestor. We are able to deduce from all these contacts that the Indus people, if not the progenitors, were aware of all the methods of writing systems existing then.

Thus the presence of the Sumerian, Egyptian, Cretan, Cypriote, Phoenician, etc., signs and characters in Indus script suggests that the Indus people were contemporaries to some of the ancient civilizations and progenitors to the evolved phonetic syllabic and alphabetic scripts of the ancient world. In fact, such an occurrence of the signs and characters in the Indus Script gives us clue that the Indus Civilization must have existed till such a late period and the Indus people must have either received them by way of trade contacts or diffused their knowledge of writing to the different cultures by way of emigrations. More about this will be discussed elsewhere.

---

1. Wheeler, R.E.M., *The Indus Civilization*, London, 1968, p. 4.
2. Wheeler, *op. cit.*, p. 81.

2

Writing Systems

METHOD OF APPROACH TO THE PROBLEM

If only we could steer clear of obsessions and analyse dispassionately the nature and methods of writing systems existing contemporaneous to the Indus Civilization, and try to read the script with the help of those known methods of writing systems, I was optimistic that we should be able to approach nearer the truth.

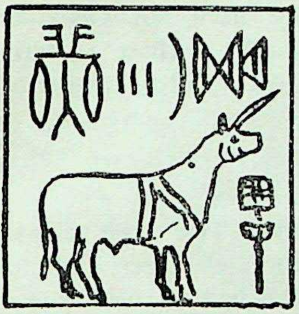
The occurrence of the Sumerian, Egyptian and other signs in Indus Script is an important lead in our attempt to read the Indus Script. No doubt, it is to the methods of writing which were adopted or invented by the Indus people we have to give greater importance. Just as the sounds of all languages as analysed so far are limited, so the writing methods must be limited; otherwise there is no reason why we would not get more methods even after the lapse of about six thousand years since the first writing was invented. Any civilization had to select a set of sounds to suit their language pattern according to its necessities and environmental conditions from the total sounds that could possibly be produced by the vocal systems for expressing the thoughts and needs. Similarly it had been essential for any civilization to select a few writing methods which would suit their language out of those that were in vogue.

By the time Indus Civilization attained its development, writing methods were already developed. This is amply illustrated by the various signs in the form of variants sometimes with the evolved and conventionalised linear forms existing in the Indus Script.

Let us briefly survey the methods of writing prevailing at the time before starting the analysis of the Indus Script.

Picture Writing

The earliest form of expression of ideas was the representation of objects through the pictures in a summary way.[1] The palette of Narmer belonging to the later pre-Dynastic period and to the earliest years of the First Dynasty of Egypt, may be taken as an example of this. The king was shown standing in the centre smiting the enemy. Behind him his valet was shown carrying the cup, etc. Below the enemy was shown in flight. Hrous held a cord attached to a human head which was connected to the symbol of land where the papyrus grew. The papyrus was intended to suggest the delta land. Thus the story goes on telling us about Narmer's victory over the Delta people. But we cannot call this as writing, since it was only pictorial representation of the objects in action but not expression of the ideas and feelings.



Pictographic—Ideographic

The next stage was pictographic and ideographic in which the signs or pictograms indicating objects represented by them were placed side by side to express an idea. Sometimes, especially, when the abstract things and qualities were to be expressed, it was done with the help of ideograms (logograms) devised specially for this purpose. Thus the ideograms functioned as sense-signs for abstract ideas like justice, life, etc., and pictograms as picture-signs for concrete objects to express various shades of meanings. In the above example of the palette of Narmer, we notice to the right of the head of the kneeling figure, a picture of a harpoon and marsh. These would suggest that the kneeling figure belonged to the Harpoon Nome in the Delta. Because of the representation of the harpoon and the marsh as pictograms side by side, we have to take this particular portion of the palette as depicting the pictographic-writing.

Further Moorhouse writes[2] that "In three sentences, 'the man catches the fish', 'the man cooks the fish', 'the man eats the fish', we have three different actions performed by the man. In Picture-writing it would be necessary to depict each of the actions in a different way and so to make three different drawings of the man. But in Pictographic-writing one pictogram will serve for the man, which will be irrespective of what he is doing and another will represent the fish which will look the same whether it is alive in water or in the process of being eaten".

---

[1] Moorhouse, A.G., *Writing and the Alphabet*, London, 1946, p.6.

[2] *Ibid.*

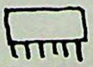
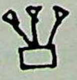
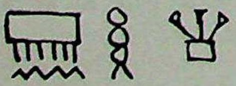
Ideographic or Logographic

In course of time writing acquired purely ideographic stage when the pictograms gradually lost the pictorial value and took the conventional form of the objects depicted. Here a bee, as an ideograph suggests a king. But it requires some key to understand the ideographic script. So far at this stage, expression of ideas and understanding them were based on certain conventions. To understand this one need not know any language; a knowledge of the prevailing conventions is enough. The earliest Sumerian writing of the archaic period may be taken as ideographic-writing. Still we cannot call it writing since there is no expression of sounds.

Phonetic

Then came the revolutionary stage in the writing systems. This was achieved by attributing some sound values to the signs depicting the words of objects and ideas which are universally known as phonograms or sound signs. This had evolved due to the long association of ideas articulated for particular signs. But the difficulty arose when abstract ideas were to be represented by this phonetic method. The scribes successfully overcame this difficulty by taking advantage of the homonyms in their languages. Thus they could express the sound of an abstract idea with the sign of a similar sound of a material object. Wolley[1] gives an example :

"The earliest known example quoted as illustrating this method of extending the range of pictorial signs comes on tablets found at Jamdet Nasr, a site on Tigris, a little north of Babylon and dated about B.C. 3300. In these occurs the personal name En-lil-ti which in Sumerian means 'Enlil (The God) causes to live'. The word sign *ti* is the picture of an arrow, but in the spoken language the sound *ti* is a homonym, meaning both '*arrow*' and '*Life*' the later would be difficult to represent pictorially and therefore according to this theory the scribe uses the arrow sign which could be drawn to mean '*life*'."

The existence of homonyms in both Sumerian and Egyptian languages created another problem for the scribes. As a result they were compelled to invent other devices such as ideograms and determinatives. For example, in Egyptian *m-n-h*  meant '*wax of the Papyrus plant*' and also a '*youth*'. If the scribe wanted to suggest wax of Papyrus plant, he would engrave a '*Plant*'  determinative for the *m-n-h* as . (Driver, p. 58 and Gardiner, p. 534).

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1. Hawkes, Jacquetta and Woolley, Sir Leonard, *History of Mankind*, London, 1963, Vol. I, pp. 634-35.

Thus ideograms and determinatives along with phonograms becomes an integral part of the Sumerian and Egyptian writing system. Sometimes these signs were written in combination to indicate a composite phonogram. This system of writing is known as phonetic writing.

Syllabary

The next stage in the development of writing system was further simplification of the phonograms by limiting the signs to the sound value of the first syllable of the phonogram. This is known as syllabic writing. Certain Egyptian hieroglyphs stand for one, two or more consonant sounds. In order to write the words the alphabetic signs are used along with the bi- or tri-literal signs. For example, the word incense (SNTR) is written in various ways as follows :

1. Pictogram of incense bowl suggesting the sound SNTR.
2. S+N+T+R.
3. SN+T+R.
4. SN+NTR.

Babylonian cuneiform may be taken as the best example of the writing in syllabary.

A variation of the syllabary system is that where the signs take only the opening syllables formed of a consonant and a vowel. Cypriote script and also Indus Script which will be seen soon, belong to this class of syllabary. The following word *Makhanasana* illustrates the two types of the syllabic writing :

1. *Makh-an-as-an* according to Babylonian syllabary of closed syllables and
2. *Ma-kha-na-sa-na* according to Indus writing system of open syllables.

Alphabetic

The last in the evolution of writing system was the alphabet. Professor Baltiscombe writes :[1]

"That was the birth of the Alphabet, one of the greatest and most momentous triumphs of the human mind. The earliest phonograms represented the syllables, not individual letters, the distinguishing signs for vowels and consonants being of yet later introduction; infact some alphabets, notably the Hebrew and other Semitic, have no true vowels but only distinguishing marks, diacritical points as they are called to denote them."

The alphabet has the origin in the Sinaitic script which was found in Sinai Peninsula and dated to B.C. 1800-1600. It consisted originally 32 signs and were reduced to 24 signs, later on. The Sinaitic script itself has descended from the Egyptian hieroglyphs. Later on the semitic people from Syria, Palestine and Cyprus took over the alphabet and gave the semitic name like alpha, beth, etc., to each of the signs. They also added some vowel signs to the Sinaitic script. Thus the Semites became the first people to evolve the alphabet. The Greeks took the alphabets from these semites and thus the alphabet travelled to all Europe.

---

[1] Professor Baltiscombe, *Picture writing in ancient Egypt*, 1957.

Combination of many systems of writing

In fact all the above stages of writing systems did not exist exclusively in complete isolation from each other. We found long continued and combined use of all the systems in Egyptian hieroglyphic writing and in the cuneiform writing of the Babylonians and also in the various other writing systems of the ancient civilizations. This overlapping of different systems of writing suggests a slow progress and conservatism of the ancient people.

METHOD USED BY THE INDUS SCRIBES

We have to analyse the Indus Script in the light of the above writing systems since it had its contacts throughout with all the ancient civilizations. Like the Cretan, Hittite and Cypriote Civilizations, Indus Civilization also adopted a syllabic writing system mixed with ideograms and determinatives taking the essential methods from the Sumerians and Egyptians after converting the signs and their phonetic values to suit their language needs and conditions of writing material (soft stone of steatite) available in the Indus Valley.

It would be pertinent to quote Woolley on the borrowing of the idea of writing :

"The Harappan people were in direct contact with Mesopotamia, as is proved by the finding of numerous seals of the Harappa type on Mesopotamian sites, and the contacts would seem to go back to a far greater antiquity, that India owed its art of writing to the Sumerians now the traders of the Indus Valley must have turned to their own uses the invention which traffic with Mesopotamia brought to their notice. What was borrowed, here as in the case of Egypt, was not the form but the idea of writing."

"Granted that there may be resemblances between some of the characters in the different scripts, such did not constitute a valid argument; the characters being originally pictograms would have represented the ordinary things of life, which would be more or less the same every where and the drawings of these things done by the Scribes of different countries would bear a certain family likeness, but the sound values of the similar signs would be determined by the name of the things in different languages and would be therefore entirely unrelated one to another."[1]

---

1. Hawkes, Jacquetta and Woolley, Sir Leonard, *History of Mankind*, London, 1963, pp. 642-43

A glance at the Indus Script will atonce reveal that the script comprises conventional and simplified pictures of natural objects, vide figs. 3 & 4.

A close examination of the script will enable us to dissect it again into broad groups chiefly depending upon certain individual characteristics displayed by the signs. The scribes made it conspicuous by writing certain signs in double or accented lines whenever they wanted to suggest certain exotic ideas, names and things ideograms and determinatives. Let us take a few instances of direct borrowing of signs from foreign countries in the Indus Script (see figs. 3 and 4 given above) and try to find out the peculiar way of writing of those signs. When contrasted with the usual other signs the peculiarity is obvious and no one can deny the fact.

3

First Success

DIFFICULTIES IN THE WAY OF DECIPHERMENT

I may once again emphasise the point that in our attempt to read entirely an unknown script, that too in an unknown language, we must be guided by solid facts and scientific laws. When we get the facts we can extend them while applying to our theories in order to divulge the content of the writing. Again a decipherer has to depend upon his direct observation and personal experience with the script rather than what the external reasoning alone would seem to suggest as to the nature of the language of the script. More appropriately, the suggestion concerning language should strike him like a flash as a result of his observation, contemplation and analysis of the script.

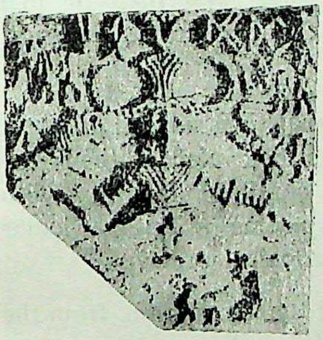
Following the lead he will put to test some of his original ideas in an attempt to get a break-through. In this way he tries to find out the logic behind the representation of the animals and conventional signs around a central deity in the seal (Mackay No. 420). His uncanny eye will point out to him the curious seals (fig. 9). From these he infers some language and a writing system used by the scribe.

Here proper names might give us some clues as this method had helped in the decipherment of Egyptian hieroglyphic and Babylonian cuneiform writing systems.

Luckily, I could over come certain main difficulties in studying the script. I must say I won half the battle when I had read the first seal (Mackay Plates 'C'/'F'). It is a major turning point in the whole process of decipherment. With the background of all my humble knowledge and training in the various aspects of art and archaeology, I was raking my brains and wandering in search of a right path which could lead me to the truth. Truth for me is logic and science. It occurred to me that the veil of mystery of the Indus script could be lifted with the aid of logic. After going through all the plates of Marshall's and Mackay's volumes I have selected the seal No. Mc. Pl. 'C'/'F' which is famous as Pasupati seal, for logical understanding of the script, since it is the only seal that was done most elaborately.

FAMOUS PASUPATI SEAL[1]

Keeping before me the seal I prepared the following questionnaire :



(1) Why were animals depicted and why are they all facing one direction except for the tiger which was given a special significance in its rampant action and also in its facing the seated central figure?

(2) Why was the human figure repeated?

(3) What is the special significance of the goats or deer, shown under the seat of the central figure?

(4) What is the total number of figures depicted around the central figure?

(5) Can we deduce any logical relationship between these figures and the central figure and the inscription?

The following can be elicited from the above questionnaire :

The artist-scribe had chosen a powerful subject and depicted it through the representation of the human beings and virile wild animals. If we isolate the tiger on the basis that it faces the central figure in contrast with the other animals depicted, with the exception of the deer or goat, which again isolated by their position below the seat, the number of the total animals would be five. These five depictions may be logically linked with the five conventional signs inscribed above the head of the God. Incidentally, the repetition of the human being at its third position of the first file on the right side and fifth position in the second file on the left side, counting from the right side, bottom upwards and from the left side top downwards, corresponds to the identical position of the inscribed five signs in the top row. This provides a strong ground to link up the two different types of the signs, *i.e.*, pictures and conventional signs.

But how do we link them up ? Here we have to depend on both plausible speculation and scientific method. It is known to us all that the Vedas are our earliest literature. Therefore, there is no harm in tentatively speculating that the language of the Indus people might be nearer to the Vedic language or one of its early forms.

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[1] Lecture was delivered at the National Museum, New Delhi on 7th March, 1969. The same was published in *The Hindustan Times Weekly Review*, New Delhi, dated March 30, 1969.

PRINCIPLE OF ACROPHONY

The next problem is how to apply this language to the conventional signs. This can be achieved by means of the principle of acrophony which was uniformly adopted by all the ancient people, Early Egyptians, Sumerians, Elamites, Hittites, Cretans, Germanic races, Celts and Slavs, etc., in the ancient times. According to the principle of acrophony, the pictures were treated as phonograms (sound words) representing those particular objects depicted, in their language, and then the first open syllable (sometimes two syllables also) is ascribed to the pictogram. It is just like 'C' for Cat.

The difficulty arises when the scribe uses conventional signs instead of pictograms. In course of evolution change of form and shapes took place in the pictograms and these were converted into abstract signs, which could be identified with their original pictographic forms. But this difficulty is over come in this particular key-seal since conventional signs and pictures are arranged in a logical order.

Now, when we apply the above principle and read the inscription, from the right to the left for the reason that the main figures face left, it reads as : (1) *mahisha* (Buffalo) or *Ma* as first syllable, which is linked with the first sign above; (2) *khadga* (Rhinoceros) for *Kha*, linked with second of the inscribed signs above; (3) *nara* (Man) for *Na* the lengthened form because the third sign with which it is linked is modified by two tick marks; (4) *sadri* or *satri* (the elephant) for *Sa* which finds linking with the fourth sign, and *nara* again for *Na* to be linked to the last sign above. Then all the phonetic values are put together and read. It sounds *Ma-Kha-Na-Sa-Na*.

Does the whole word '*Makhanāśana*' convey any meaning? Yes, it is an epithet given to Indra in the Vedic literature, with slight change in the form as '*Makhahan*' but which means the same thing. The word '*Makha*'[1] occurs in Rigveda but the meaning of it could not be established by the translators. In their opinion it might suggest a person, probably a demon.

REFERENCES TO MAKHA

It remains for us to search for other sources of the occurrence of this word '*Makha*'.[2] "The Iranians who were descendants of the Asuras, called the Sun (Varuna)

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1. Macdonell, Arthur Anthony, and Keith Arthur Berriedala, *Vedic Index of Names and Subjects*, Vol. II, p. 116, Varanasi, 1958.
2. Das, Avinaschandra, *Rigvedic India*, 1921, Calcutta, pp. 159, 163-64.

as Ahura Mazda, which is a corrupt form of Sanskrit "*Asura Maghava*" and which means the great God to be worshipped by men."

In Rigveda there is a mention that Indra killed the Asuras named Arur Maghas, who assumed the forms of Brahmanas and who were the followers of Visvarupa, the son of Tvashta, the creator himself. The *Taittiriya Samhita* speaks of Visvarupa as the priest of Devas. He used to say openly that the share of *havis* was legitimate to the Devas, but in private he used to say that the Asuras were entitled to it. Indra, having come to know of this, apprehended a revolution, cut off his three heads with the help of his thunderbolt. The killing of this Brahmana priest by Indra made him incur the sin generally attached to the killing of a Brahman. Tvasta, in his rage after seeing his son killed, discontinued the offering of the Soma drink to him, though afterwards Indra took forcibly a share of it from him.

Concerning '*Makha*' we have some more information.[1] The Indus region is known as 'Saka Dvipa' the land of 'Sakas', who are the first settled. The Sakas are sun worshippers (Magas) Sumero-Phonicians, known to Aryans as Panis. They use Pisachi dialect, a form of Prakrit. They are also Sakti (mother goddess) worshippers represented by *linga* (Siva, Baal), and *Yoni* (Sakti). Hercules is their hero, just as Heracles (Gilgamesh of Erech) is to the Sumerians. These Magas were against the principle of bloody sacrifices of the Aryan type, and opposed it, and for that reason Indra killed the Arur Maghas. Indra is honoured as Pani in Rigveda. For sometime even after the Aryan immigration, and later, the Panis (allies to Asuras) and Aryans lived together. This cosmopolitan nature of society might give us some clue as to the occurrence of pre-Harappan and Harappan in the early levels of Harappan sites by way of overlapping.

Now, we are on a firm ground to read the inscription as '*Makhanasana*' as an epithet of Indra, the chief deity of the Vedic Aryans. The epithet means destroyer of the demon Makha or Asur Makhas, the Asura Priests. The implication of the powerful and virile animals depicted around Indra is also explicit now. The tiger is an ideographic way of suggesting the destructive power the war God Makhanasana symbolically represented. The two goats (one abraded) below, the seat of Indra stand for 'rank' and 'dignity' and 'Plenty' ideographically. It is so in Egyptian hieroglyphic system also. Moreover, Indra is praised in the Rigveda as the protector of the weak and the humble. The two horns and the middle axe like flat object as the crown, suggest divinity.

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1. Waddel, L.A., *Indo Sumerian Seals Deciphered*, London, pp. 34, 103 & 116.

DEDUCTION FROM THE FIRST KEY SEAL

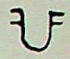
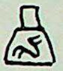
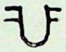
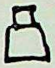
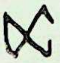
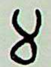
We can deduce the following facts from the reading of the first seal 'Makhanasana'.

1. The script is phonetic (Syllabic) and the direction of its writing is from the right to the left.
2. The language is proto Vedic open polysyllabic and inflective from which Sanskrit and other Prakrits are derived.
3. The people were Aryans, Asuras, Panis and other tribal people as mentioned in the Vedic texts and belonged to different religions and sects.
4. The people were aware of contemporary writing systems *i.e.*, Egyptian, Sumerian, etc.
5. It would suggest that the Indus people also might have adopted the pictograms, ideograms and phonograms in their writing system. They might have borrowed the signs from the Egyptian and the Sumerian system of writing and fixed the phonetic values for them after translating the phonograms into their own language. In certain cases, wherever the phonetic value was of monosyllabic or alphabetic, the Indus scribes adopted them as they were without any alteration. This, however, is not conclusive proof that the Indus scribes followed and borrowed the methods in vogue in creating their own script, for the method in vogue might have been derived from the writing system of Indus Civilization.

APPLICATION OF SCIENTIFIC METHODS IN THE DECIPHERMENT OF THE SEALS

With the guidance of the deductions made, if we cautiously orient our efforts in the reading of the other seals and sealings, while rigidly observing the basic laws of science such as the law of consistency, the law of existing causes, survivals and the evolutionary forms etc., the rule of majority and adoption of the feasible theories and following certain logical processes such as inferences, deductions, analogies etc., we will certainly be able to reach our goal.

CHECKS FOR CONFIRMATION OF THE READING

Reading of the seal Mc. 420, as *Makhanasana*, on acrophonic principle demands further confirmation for evaluating the decipherment. This may be obtained by way of checking the phonetic values, first with the known scripts in the world which ante-date, post-date and are coeval to the script in question. For this, one may immediately look for comparison of archaic Sumerian of Jamdet Nasr period, where the phonetic value for fish sign is *Za* or *Sa*, and the phonetic value *Na* for the sign  can be found in the incorporated Sumerian sign  with the phonetic value *Ninua*, from which the initial *Na* having been separated from *Nin* which stands for  *i.e.* placed in the sign . The phonetic value for the sign  can be immediately traced in Asokan Brahmi . After checking the phonetic values with external evidence it is necessary to know whether these would maintain consistency by giving meaningful reading.

My early efforts in deciphering the Indus Script had created some stir among the scholars. Some scholars criticised me for borrowing the phonetic values from such different scripts belonging to distant lands and to different periods of time.

In order to bring home the truth of my decipherment I adduce some more evidence below.

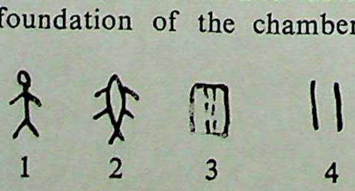
4

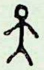
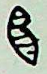
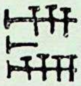
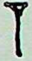
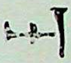
Further Attempts at Decipherment of the Indus Script

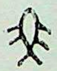
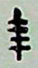
I do not agree with the theorists who argue that Indus Script cannot be deciphered as it has got some serious shortcomings in not having lengthy texts while written in an unknown language. Neither do I agree with those computer dependent scholars who are convinced that computers will feed them with the deciphered seals, nor with those who argue that it cannot be deciphered unless we get some bilingual texts. When Champollion deciphered the names of Ptolemy and Cleopatra and when Rawlinson deciphered the names of Xerxes and Darius, they were handicapped by all the present day modern techniques. The proper names of kings gave them effective clues. In fact this is the only method on which we can depend.

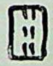
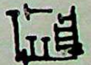
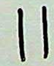
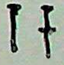
The Indus people left us several clues to read their script. I have attempted at one of these clues ten years ago. To vindicate my earlier claim, I would like to place before you some more efforts at decipherment.

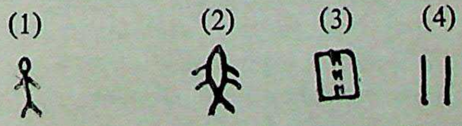
The first is a seal found in Mesopotamia by Mackay in the temple of the war god *il Baba* at Kish and which gives exact field records. “It came from a chamber in the temple beneath the Samusuiluna pavement and described as found lying in the debris used to fill up the foundation of the chamber (Marshall, 426). The text is;



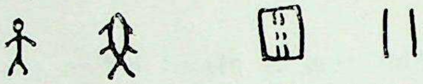
Let us examine this seal. It contains four signs. The first is a sign of man  . This is similar to Sumerian linear sign  (Kramer). Its cuneiform adaptation is  . This sign is placed before the names of professions. (Langdon, 1911-56). In the Assyrian cuneiform, a vertical wedge  indicates that the next word will be the name of a person. A sign  indicates a name of God, etc., (Rawlinson I, 270). The single wedge has got the phonetic value and meaning god in the Chaldaean cuneiform. So we may take the first sign man as a determinative having no phonetic value but indicates the proper name of a person, god or goddess. It may be prefixed or suffixed.

The second sign  a fish. It has got the phonetic values *Za/Sa* in the archaic Sumerian linear script. Its evolved form in the cuneiform is  . The Phoenicians borrowed this into their script with the phonetic *values*. We have a similar sign in the Indus script also for which I have given the phonetic value '*SA*' on the above basis. '*Za*' has the meanings bright, pure, gracious, happy, lucky, to make, prosperous, good, to meet, smelt, refine, brilliance of heavenly bodies (Langdon).

The third sign  is picture of a house. It is similar to a sign  in Babylonian cuneiform with a phonetic value '*bar*' meaning a dwelling. The fourth sign  has a similar sign in the cuneiform  with a phonetic value '*bur*' and its meaning is not given.

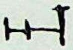


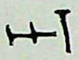
Thus the meaning comes to (Det. for name)—(Sa/Za) (bar) (bur). The phonetic values '*Bar*' and '*Bur*' of the third and fourth signs lose their biconsonantal character and become uniconsonantal with a vowel. This is the characteristic of the Sumerian language described by Langdon under Apocopation (Langdon 1911-47). But instead of Apocopation, it is a clear case of Metathesis that has taken place, as for example, *Bar Bur* becomes '*Babar*' which is a Sumerian word for war god Baba (Jastrow, 200).



(1) (2) (3) and (4)

The whole reads now : Det. for god. *Sa/Za*–Babar. The Babylonians omit the final consonant of a word to facilitate easy reading and thus it becomes Baba.

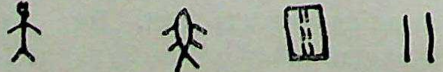
We may now compare this reading with the name of the war god *il Baba*. *Il or ilu* means god in semitic language. In the lists of Babylonian cuneiform syllabaries arranged in three columns and prepared by the Babylonian and Assyrian scribes to facilitate the instruction in cuneiform writing, we find the Sign  in the middle column :

an  ilu.

This means *An* is equivalent to *ilu*. *An* or *Aṇu* is of Casdoscythian origin. This shows that the syllabic values of the Babylonian cuneiform represented the non-semitic words also. (Jastrow 92; 100). In the native Chaldaean (Cushite) *Ra* is the equivalent of *il* (Rawlinson, 114).

The early kings of Chaldaea are continually represented on the monuments as sovereigns over the 'Kirpat arbat' or four races. These four races are called sometimes the '*Arba Lisun*' or four tongues, the languages in fact belonging to the four great varieties of human speech, the Hamitic, Somitic, Arian and Turanian (Rawlinson, 61). The reason for the existence of so many signs in the cuneiform for the same word is attributed to the presence of the above four types of races in Babylonia. Each race has given in its own language the value or meaning for the original signs invented by the Sumerians.

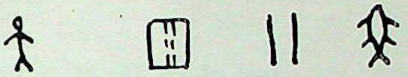
We have seen above the word *il*, *An*, *Ra* belonging to three different languages. We may, therefore, expect the Aryan equivalent for '*Il*' is '*Sa*' since it has the meaning 'bright' and brightness is the quality of the god. In Sanskrit *Sa* is meant Siva and Vishnu. Even fish represents god. God is praised by Jayadeva in his sanskrit work as *Dhrita meena śarira* (embodiment of fish).



1 2 3 & 4

Now the meaning goes : (Det. for god) (Sa/Baba)

We may also look for as alternative way for reading in case *Sa* is not taken to be god. If we change the order of the syllables of the word as:



1 3 & 4 2
(Det. for god) -- Baba Sa

It gives the following meaning: 'to god Baba'. This change is in harmony with the morphology of the Vadic Sanskrit. It shows a person from Indus Valley has offered something to god Baba.

The second sign fish is unified by adding two extra strokes to modify its phonetic value. If the fish is taken as *Sa* on the basis of acrophony, the guiding principle of my early decipherment (Krishnarao, 1969-72) for '*Salkali*' or '*Salki*' meaning fish, the two extra strokes are meant for a long vowel '*aa*'. It may then be read as *Saa*.

The phonetic value for the third sign also can be fixed on the same principle. The value '*Bar*' means a dwelling for which the sanskrit word is '*vasati*'. The sounds *Va and Ba* are interchangeable. So we may take *Ba* for the third sign.

For the fourth sign there is another equivalent word with a meaning 'to open or to say' for which the Sanskrit equivalent words are '*vivruneti*' or '*Vada*'. Thus the '*Va*' changed to '*ba*' can be fixed for the fourth sign. (Vide: Fig. 1 to 4). All this arises on the main presumption that the Aryan language was also present among the Babylonian tongues.

Since it is supposed to be the proper name for god Baba, the last two signs are constant, and we may directly ascribe phonetic values '*Ba Ba*' without searching for any comparisons. Rawlinson and Champollion deciphered scripts on the same assumptions of proper names of kings. It is a convincing and infallible method also. The difficulty arises in fixing the phonetic values for the first and second signs. The first sign is a mute determinative for god. The second sign has been assigned the phonetic value '*Sa*' on the basis of Sumerian equivalent *Sa/Za* and also on the acrophony '*salki*' (fish). The sounds of *Sa* and *Za* are interchangeable as in the sound between '*Va and Ba*'.

Now we have got some other evidence to confirm our reading of *Sa* for the second sign. Among the list of the kings of the Kassite dynasty of Babylonia, we find the name of a king, *Za Ba Ba Sumiddinna* who ruled about B.C. 1162. Ninety per cent of the ancient people of Babylonia, Assyria, Susiana and Egypt bore their names that are derived from the names of gods. My researches have proved that even ninety per cent of the names of Indus people bear the names of gods. It is, therefore, no surprise if we find in the name of Za Baba sumiddinna the war god's name, *Il Baba*.

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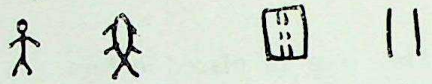

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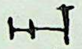
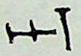
We may now compare this reading with the name of the war god *il Baba*. *Il or ilu* means god in semitic language. In the lists of Babylonian cuneiform syllabaries arranged in three columns and prepared by the Babylonian and Assyrian scribes to facilitate the instruction in cuneiform writing, we find the Sign  in the middle column :

an  ilu.

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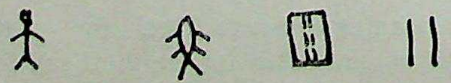
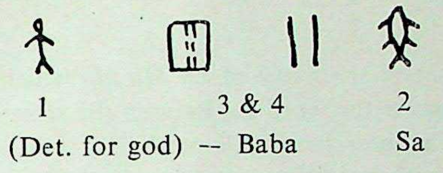


1. 2 3 & 4

Now the meaning goes : (Det. for god) (Sa/Baba)

We may also look for as alternative way for reading in case *Sa* is not taken to be god. If we change the order of the syllables of the word as:



It gives the following meaning: 'to god Baba'. This change is in harmony with the morphology of the Vadic Sanskrit. It shows a person from Indus Valley has offered something to god Baba.

The second sign fish is unified by adding two extra strokes to modify its phonetic value. If the fish is taken as *Sa* on the basis of acrophony, the guiding principle of my early decipherment (Krishnarao, 1969-72) for '*Salkali*' or '*Salki*' meaning fish, the two extra strokes are meant for a long vowel '*aa*'. It may then be read as *Saa*.

The phonetic value for the third sign also can be fixed on the same principle. The value '*Bar*' means a dwelling for which the sanskrit word is '*vasati*'. The sounds *Va and Ba* are interchangeable. So we may take *Ba* for the third sign.

For the fourth sign there is another equivalent word with a meaning 'to open or to say' for which the Sanskrit equivalent words are '*vivruneti*' or '*Vada*'. Thus the '*Va*' changed to '*ba*' can be fixed for the fourth sign. (Vide: Fig. 1 to 4). All this arises on the main presumption that the Aryan language was also present among the Babylonian tongues.

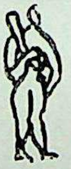
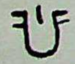
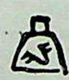
Since it is supposed to be the proper name for god Baba, the last two signs are constant, and we may directly ascribe phonetic values '*Ba Ba*' without searching for any comparisons. Rawlinson and Champollion deciphered scripts on the same assumptions of proper names of kings. It is a convincing and infallible method also. The difficulty arises in fixing the phonetic values for the first and second signs. The first sign is a mute determinative for god. The second sign has been assigned the phonetic value '*Sa*' on the basis of Sumerian equivalent *Sa/Za* and also on the acrophony '*salki*' (fish). The sounds of *Sa* and *Za* are interchangeable as in the sound between '*Va and Ba*'.

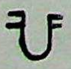
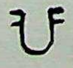
Now we have got some other evidence to confirm our reading of *Sa* for the second sign. Among the list of the kings of the Kassite dynasty of Babylonia, we find the name of a king, *Za Ba Ba Sumiddinna* who ruled about B.C. 1162. Ninety per cent of the ancient people of Babylonia, Assyria, Susiana and Egypt bore their names that are derived from the names of gods. My researches have proved that even ninety per cent of the names of Indus people bear the names of gods. It is, therefore, no surprise if we find in the name of Za Baba sumiddinna the war god's name, *Il Baba*.

In fact the war god Il Baba was also known as *Za Ma Ma* or *Babbar* (a Sumerian name) a solar deity. He is addressed as the son of Enlil as a war god. He is the patron of Kish where the above seal was found. He is absorbed in due course with Ninib or Bar (Jastraw, 200).

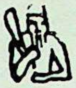
Because of the occurrence of the name of *Za Ma Ma* which is equivalent to Il Baba and because of the presence of the word Za Baba in the name of a king, it may be concluded, therefore, that Za is interchangeable with il. And *Za* in Sumerian is equivalent to *Sa*. Similarly we have another name of god mentioned by the Sumerians as En Zak who is identified with god *Nabu* the principal deity of Dilmun. (Bibby, G.A., 1969-43). For En Zak two other pronunciations are given as In Zak and En Shag. I have read it and identified with god Saka of the Indus Valley and Dilmun being one of its cities. (Vide fig. No. 85 No. 145).

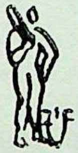
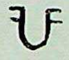
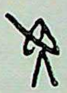
We got therefore, the name '*GOD* (*det*) *Sa Baba* for the final reading of the seal. Several seals with the name of god Baba occur in the Indus cities. (Vide : fig. No. 1 to 5).

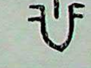
We shall now turn to another seal which is also most important. It is a seal No. 305 Pl. xciii recovered from the excavation at Harappa (Vats. 1934).  figure of god is depicted on all the three sides holding a raised weapon. A letter is inscribed  near the feet. This sign may be compared to a sign  (Sumerian) with a value '*Ninua*'. The meaning is not given (Barton, 1913). Usually such ideographic signs denote the names of gods or deities.

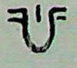
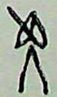
But we have got some other evidence to know its meaning. For the same sign without  is given in the Sumerian texts the value *ab* (Langdon, 1911). Thus it is left to our imagination to deduce the value for  as Nin, the only remaining part of the word Ninua.

There is a name of god Ninib meaning Nin by name, also written as *Nin*, due to the dropping of the final syllable *ib* which is considered as unimportant. Such dropping of final syllable occurs in the other names of gods also, for example, Sansi-San, Ashur-As (Rawlinson, I, 123).

Nin is the lord of region, lord of lands, a god of war and hunting. He is the son of Enlil. He is also called Bar. He is of Amorite origin. His weapon is raised to smite evil,  demons etc., (Jastraw Pl. xxvii). He is god of strength and courage. He is destroyer of enemies and resembles Nargal. He is the fish god of Borossus. He is the god of the sea. Nin's emblem in Assyria is Man-bull. He guards the palaces of Assyrian kings. He is their tutelary god. Their capital city bore his name. Many Assyrian kings kept his name as a part of their names. (Rawlinson, I, 129).

Now if we examine the Indus seal (Vats No. 305), we find that the above description suits best to the picture depicted therein. A figure with the legs of a bull and the body of a man, with the right hand holding a raised weapon and left hand held at the waist  and below the sign  modified with a stroke to give the phonetic value '*Ni*'. We have got a similar sign  in the Indus script which occurs most frequently and resembles the above figure of Nin. A figure of god Enlil with the same description of a raised weapon has been given by Jastrow (Jastrow, Pl. xxvii). Being a son of Enlil, if Nin also resembles his father, there is no wonder.

It is not difficult to assign the phonetic value for the sign  as '*Ni*' in the Indus writing system which is of open syllable values, instead of Nin of Sumerian system of writing with closed syllables or word values. But as the sign is an ideograph suggesting the idea of the name of the god Nin, it cannot be spelt as Nin. Indus people inserted this sign in the inscriptions at the beginning, end or middle feeling that the presence of the figure of god Nin itself would protect them from evils and demons and lead them in the war to victories. Some times they replace this sign with the syllable *Ni*.

It is, therefore, proved once for all that the sign  has the phonetic value '*Ni*', and the sign  has the ideographic value for Nin. My earlier reading

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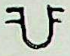
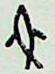
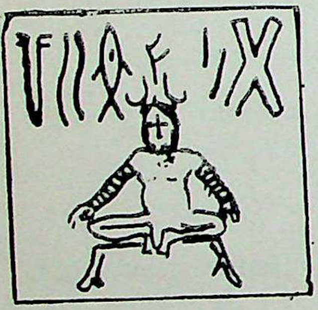
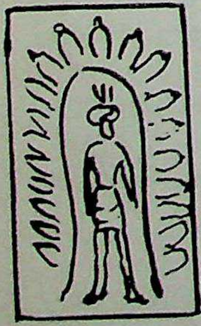
of the signs   in the Makhanasana seal, in the year 1969, as *Na* and *Sa*, is proved correct.

CHECKS FOR CONSISTENCY AND MEANINGFUL READING

In order to test the consistency of the sound values that have been ascribed to the above signs, I have taken the following other seals for reading.

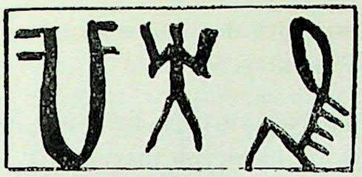


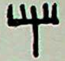
The second seal (Mackay Pl. No. LXXXVII, 232) is also a seated human figure just as Makhanasana. Here we have two common signs which occur in the first seal. These are *Sa* and *Na*. We have to fill in the rest of the blanks. The first sign is a *Swastika* which stands as an ideograph, a sense sign suggesting the nature of the God, and as a determinative for the name of God, who is a *Kshemankara*. But this ideograph has no phonetic value. If it is not used as an ideogram, it has the phonetic value '*RA*'. Then the second sign is the feather in the horned crown of the deity. In Phoenician script it has the phonetic value of '*I*'. The third sign is known to us as *Sa*, and the fourth is *A* in the Sumerian script. When read fully the inscription gives us ISAĀNA ISANA, one of the forms of Rudra. It is very common to break the word as ISAĀNA in syllabic scripts. Thus I feel that the occurrence of these Sumerian, Egyptian, Phoenician, Ogam and Runic signs would indicate the long duration of the existence of the Indus Civilization from third millennium B.C. to ninth century B.C., or would suggest that the Indus signs travelled to such distant lands with the trading communities; or would even suggest that all the above scripts have a common ancestor in Sumerian script or Egyptian hieroglyphs.

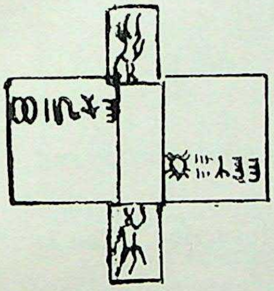


The third seal (Vats, Pl. No. XCIII, 327), taken up for reading is of another God; for once we started getting the evidence of Vedic gods, there is every likelihood that we may get other gods also, viz. Surya, Varuna, Vayu, etc.

Here again I depended mainly on the iconographic features of the deity, Surya. Below, on either side of the central design a star is shown representing the Sun. Around the *torana* are given the Sun's rays in a conventional way. The commonly occurring sign *Na* is present in the inscription. The middle sign is an ideograph of a deity perhaps, the Sun God, in the *abhayamudra*. The first sign from the right is a conjunt formed by the combination of three signs *Sa*+*Ya*+*O*=*Syo*.

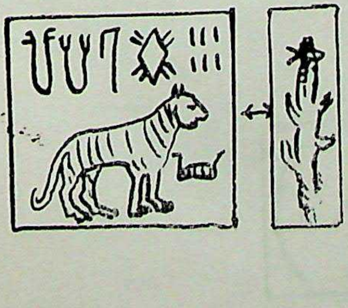


We have already come across *Sa* earlier. The phonetic value of second letter is based on the Sumerian sign  with the phonetic value *Gal*, which, when translated into Sanskrit, means *Yasasvi*; from it the opening first syllable is taken. Finally it is modified by the tick marking to give it the sound '*O*' which the Harappans adopted quite originally. The whole word thus reads *Syona*, meaning the Sun.



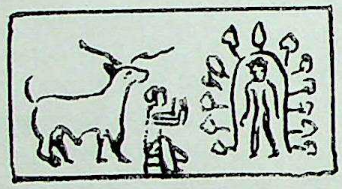
In the fourth seal also (Hunter Pl. XXII, No. 440) iconographic features of the god helped me greatly to arrive at a reading. The god is in *abhayamudra* and having a tail and horns. The horns are the symbol of divinity in the Sumerian as well as the Egyptian conception. The known sign *Na* is present. I take him to be *Vayu* in one of his epithets, because the ending 'Na' fits well with the reading *Ppavana*. Moreover in the Sinai cursive form the oval '*O*' indicate the phonetic value 'Pa'. When it is doubled or accented, which is a usual feature in the Vedic language, it must have been *Ppa*. When *ppa* and *Na* are known, the central sign must be '*Va*'. It is like a rebus. Then the reverse side, it is a conjunct or ideogram for *Raksha* fused into one unit. The lozenge stands for 'Ra' indicating the sun in the Early Dynastic Egypt. Indus people adopted it without any alteration because in their language also it fits to the word Ravi meaning sun. The *swastika* or cross, when it was not used as an ideogram, bears the phonetic value of '*ksha*', or '*RA*' as a polyphony. The the $\begin{smallmatrix}1&1&1\\1&1&1\end{smallmatrix}$ six strokes have the phonetic value of *T a v a=Tva* as conjunct which again is based on the Ogam script, the secret code of the celts. The third sign '*M*' being alphabetic is Runic which, like Ogam, was used by the European Aryan tribes. Finally the repeated sign *EE*, has got the corresponding phonetic value '*as*' (one) in the Sumerian and when translated into Sanskrit (*eka*) the first syllable '*e*'. When fully read, the inscription goes on to say *Ppavane Raksha tvam EE.*

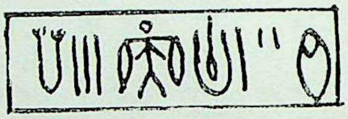
The fifth seal (Mackay Pl. LXXXIII, 51, and LXXXVI, No. 201) mentions another deity in the Vedic pantheon viz. *varuna*. Here, We have already been familiar with the first sign with phonetic value '*Va*' as in seal No. 4. The last sign is also known to us as '*Na*'. The central sign has been ascribed the phonetic value of '*Ru*' on the basis of its occurrence in the archaic Sumerian with the meaning heart, when translated into Sanskrit '*Raktasaya*' of which '*Ra*' the first syllable has been taken with slight modification as '*Ru*'. This phonetic value '*Ru*' has been cross checked for its consistency in other seals also, before fixing the sound value for it. Moreover, in ancient scripts like Egyptian hieroglyphs etc., consonants have to be pronounced with the necessary

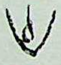


vowels added according to the context. This may be the case with the Indus Script where '*R*' or '*Ra*' has to be pronounced as '*Ru*' according to the context.

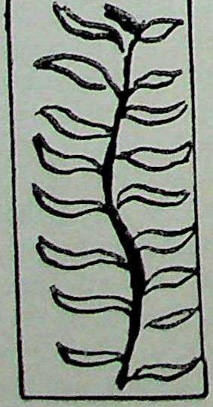
Likewise I studied the next (sixth) seal (Vats, Pl. XVIII No. 316) as *Ishta-ura*, the Aryan and Babylonian goddess of war. The first sign is an ideograph that stands for gods and kings. The second sign is '*I*' in Runic. The third sign is *Shta* with

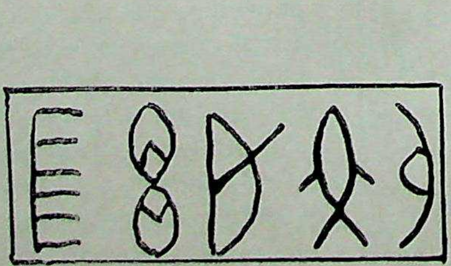




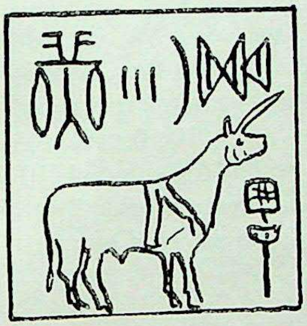
analogous sound value in the south semitic as *ts*. In fact, the sounds *stha*, *shta*, *tsa* and '*Ta*' are expressed by the same sign  as a polyphony by the Indus scribe. This is due to the system of polyphony, in vogue. There is a determinative of man carrying load indicating the proper name of the incription as well as '*Pava*' (country) as conjunct. The fifth sign is *Ra* which has been met with in earlier seals. The whole reads : Ideogram for king- *ISHTA—URA* (of *PAVA* country).

Next important seal (No. 7, Vats Pl. XCIII, No. 327) reads as '*Rasa dale*' meaning *soma* leaves which are illustrated by the scribe on the reverse side of the seal. The first sign indicates the phonetic value '*Ra*' on its analogical occurrence with the





Sumerian sign meaning king. When it is translated into Sanskrit, it means *Rajanya* and the first syllable '*Ra*' is adopted by the Indus scribe. The second sign *Sa* is already familiar to us from earlier seal. The third sign *D* stands for *Dhanus* in Sanskrit and the aspirate is softened into *Da* as it appears in early Prakrit forms. The fourth sign is '*la*' in the Cypriote script. The last sign is common as *E* the nominative, case ending.



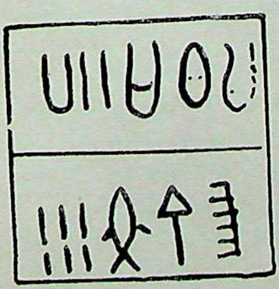
In this sequence, finally I want to interpret a seal (No. 8, Marshall Pl. CVII, No. 129), the inscription on which is partly in Sumerian and Indus Scripts and languages. The first sign, in Sumerian has the phonetic value '*Sim*' or meaning to sieve and Purify which when translated into Vedic language means '*Ppavana* or *Puna*'. This sign was used also as an ideogram to suggest 'Temple'. This is written as *Pava* while *Na* is shown to avoid its repetition in the following monogram *cum* determinative of man carrying a load which as a monogram is itselfs composed of three signs *Pa-Va-Na*. As a determinative it suggests the name of a country which I take to be the land of the Indus or Sind.

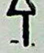
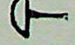
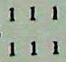
I selected the above few seals with a view to convince the scholars, since inscriptions on these seals were directly connected with pictures depicted on the other, sometimes same side of the seal.

WEIGHTS AND MEASURES AND CURRENCY

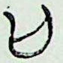
Next I had taken up another series of seals in order to verify and prove whether my decipherment was accurate and there could be no other version except the one I had found out. Here, the possibility of error is completely ruled out since the seals deal with weights and measures and gold and silver currency which occur in the Vedic literature and the work of Panini. These are :

Seal No. 9 : (Plate XXXII, No. 118 Hunter; and Plate XCIV, No. 356 Vats Volume II). The seal is inscribed on both obverse and reverse sides. The first sign on the obverse which is met with earlier, bears phonetic Value '*e*'. The second sign is

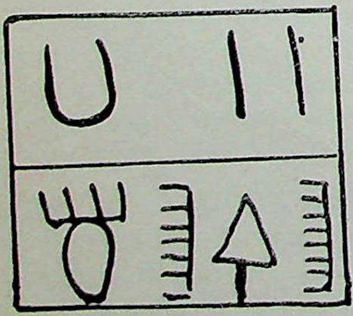


 with its phonetic value '*ka*' and is analogous with Sumerian sign  with the phonetic value '*am*' meaning '*lotus*'; and when translated into Sanskrit it becomes '*Kamalam*', the first syllable of which is taken as '*ka*' on acrophonic principle. The third sign is '*sa*' which is already known to us. The fourth sign is  with the phonetic value '*Tva*'

which has already been explained in *seal No. 4*. When it is read fully it sounds as *Eka Satva*. Here the ending *Tva* is the noun form of *Eka Sapha* meaning *one eighth* of a given measure. These measurements must have been derived from the limbs especially foot and hoof of human being and animal.

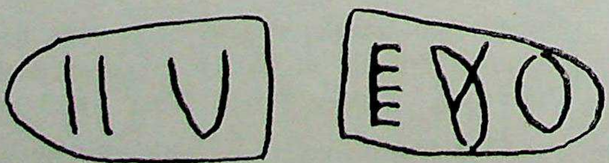
On the reverse the first sign  has the phonetic value '*Sa*' which might have been derived from the pictographic source of the '*bird*' meaning '*Sakuni*' out of which the first syllable '*Sa*' was adopted. The second sign is '*O*' with the phonetic value '*Ta*' might have been formed from the word '*Talah*' (analogous to Sumerian word for hand) when both palms are joined. The third sign is again '*Sa*'. The fourth sign 'III' three strokes stands for the numeral 3. The fifth sign '*U*' stands for numeral '10' both the fourth and fifth signs are analogous to Egyptian numerical system. Now, the whole may be read as '*Satasa*' (3+10)=13, meaning 13 by hundred or a hundred times, is equal to 13×100=1300.

The obverse inscription '*Ekasatva*' tells us about the system of measurement that was in vogue · 'one eighth of the total units 1300'. Thus we derive the separate units when we take the arithmetical progression by adding every unit with the figure 8 starting with the number 13 as the basic unit, as; 13, 21, 29, 37, 45, 53, 61, 69, 77, 85, 93, 101, 109, 117, 125, 133, 141, 149, 157, 165, 173, 181, 189, 197, 205, 213, 221, 229, 237, 245, 253, 261, 269, 277, 285, 293, 301, 309, 317, 325...........650...........1300.

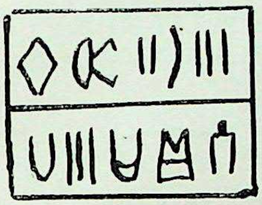


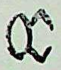
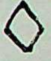
Seal No. 10: (Plate XXXII, No.121 Hunter; Plate C, No. 684 Vats Volume II). This has the obverse inscribed with the value of the weight in a word denoting the name of a particular weight. The first three signs are known to us as '*Eka E*'. The fourth sign is a conjunct of *Ya+ta*, which becomes *Tya*. Now the whole inscription reads as '*E ka etya*' meaning one complete unit by itself. On the reverse of the seal is given the value of the weight in figures as 12. Because it is a seal, the figures are shown in reverse. Thus '*Eka etya*' means, single weight of 12 units by itself without having any addition in arithmetical progression.

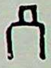
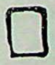
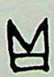
Seal No. 11 : The plate XXV II, No. 30 and 31 Hunter; Plate C, No. 682 Vats Volume II; the obverse bears the inscription in a word and the reverse in figures.



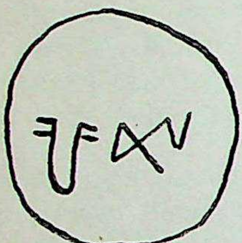
We are, familiar with the three signs on the obverse as '*Pade*' meaning one-fourth. The value on the reverse is given as 12. Interestingly the shape of the seal conforms to the human foot. It would appear that the figure 4 is to be added to the unit 12 and so on, in order to get the arithmatical progression thus : 12, 16, 20, 24, 28, etc.



Seal No. 12 : Plate XXXIII, No. 112 Hunter; Here the obverse contains the name of particular weight called '*Upa Bhāra*' meaning '*approximately a Bhara*'. The first and second signs are '*U-pa*' have been met with earlier. The third sign II '*two strokes*' are used for separating words, and sometimes for filling in the space between words. The fourth sign  has the phonetic value '*Bha*' which might have been derived from the pictographic source of a '*Crab*' or a '*Pot*' meaning '*Bahuka*' or '*Bhanda*'. The fiifth sign is  with the phonetic value '*Ra*' is known to us from the earlier seals. Thus the whole reads as '*Upa Bhara*' meaning '*nearly a Bhara*'; just as we find in '*Upa Nishke*', '*Upa Karshapanam*' of the golden currency.

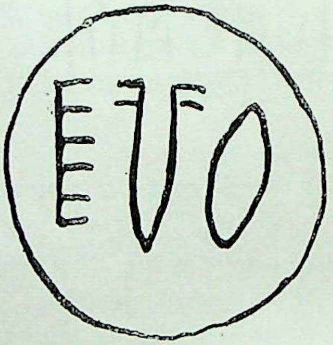
The reverse is inscribed in letters and figures. The first sign  has the phonetic value '*Vi*' which has evolved from  with the phonetic value '*Va*' and which has analogous form in Sumerian, meaning *wood* and *the blow*, when translated into Sanskrit it becomes '*Vana*' and '*Vata*'. The first syllable, if takan on acrophonic principle it becomes '*Va*'. It is modified with gunu mark so as to give it the phonetic value '*Vi*'. The secon sign  with the phonetic value '*Ma*' is analogous to the Egyptian sign that means 'Shrine', and when translated into Sanskrit it becomes 'Mandiram'. The first syllable '*Ma*' is adopted from it. The third sign is '*Sa*' as we have already met with. Then follows the figure 13. Now, the whole reads as *Vimsa 13*' meaning 20×13=260 units. Thus the 260 units are called one '*Upa Bhara*'. This word '*Upa Bhara*' is mentioned in our early Sanskrit literature and dictionaries. Because of the impact of Muslim rule in India, the ancient traditional weights *Bhara*, *Upa Bhara*, etc. have lost their significance in north India, but these are preserved in the south Indian system of weights and measures.

Seal No. 13 : Plate C I, No. 709 (Vats Volume II); '*Mana*' is the most familiar weight. This is inscribed on a terracotta ball with its value '14'. We have

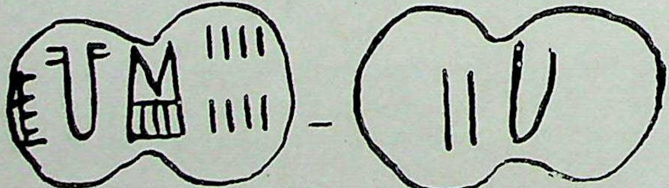


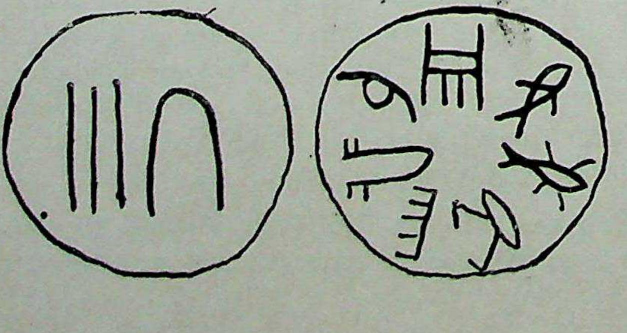
been familiar with inscribed signs '*Mana*' and '14'. Macdonell mentions '*Mana*' as a measure in his *Vedic Index* '*Dvadasa Manam Hiranyam*', gold to the value of 12 (the single unit, probably is *Krishnala*). '*Mana*' also occurs as a weight in the Babylonian and Assyrian system of weights and measures. In fact, the invention of writing started with the writing of the word *Mana* (a weight) on a weight found in the Sumerian temple city Sirpula. The second word found was *Damgar* meaning merchant.

Seal No. 14 : (Plate XCV, No. 379 Vats Volume II) On the obverse, the inscription reads '*Pane*'. We have already met with the signs giving the above phonetic values. Panini mentioned the currency '*Pana and Karshapana*' which were in vogue at his time.



Seal No. 15 : Plate XCV, No. 369 (Vats Volume II) In this seal the first two signs are '*Ka sa*' indicated by four short strokes on top and bottom and the phonetic values are based on the analogy of the Ogam script. The next 3 signs which we have met with earlier are '*Ma-ne*'. The internal strokes in '*Ma*' modifies it to '*Ma*'. Thus the whole inscription read '*Ka sa ma ne*'. On the reverse the value is given as '12'. Thus it would appear that the gold currency '*Kasamana*' or *Kasapana*' is to the value of 12 '*Krishnala*', the *Krishnala* being a single unit of measure in regard to gold and silver currency.





Seal No. 16 : Plate XCV, No 371 (Vats Volume II) In this seal the obverse bears the inscription giving the name of the gold currency as '*Bha sa Savarna*'. It means either *the gold from the city*, *Bhasa* (Indra's Capital) or *the shining gold*'. There is no need to explain the sign, since all are familiar signs, except '*Va*' which is a variant. The value on the reverse, is given as '13'. This figure suggests the value in arithmetical progression with the addition of 8 to every unit starting from 13 as already explained in '*Eka Satva*'. *Brahmanas* and *Samhitas* also mention gold dust, *Krishnalas*, *Suvarnas*, *Satamanas*, *Nishkas* and *Padas*.

5

Criteria in Ascribing the Phonetic Values

In all these reading the phonetic values for the signs are ascribed chiefly on the acrophonic principle as revealed by the key seal (Mackay No. 420) *Makhanāsana*. This method implies comparison and identification of every Indus sign with the original pictographic forms with the help of archaic Sumerian script and Egyptian, Minoan and Hittite hieroglyphs, and translating the name of the object into Sanskrit and fixing the first syllable of the name thus obtained. Where it is found to be difficult to identify a sign with the pictographic form, the phonetic values for such signs are adopted from the ancient scripts, if such values do not conflict with the meaningful readings. Briefly this is the method employed by the Hittites and Babylonians for inventing their own script. Thus it would be seen that the method adopted by the present author also closely follows the methods adopted by the ancients. The behavioural pattern, frequent combinations of signs, frequent occurrence of separate signs also tell us something about the probable nature of the language and its sounds.

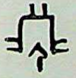
The high frequency of occurrence of the three or four signs out of nearly 400 signs, indicates the characteristic feature of the syllabic system of writing rather than that of logographic one. In syllabic system only certain signs, representing the sounds peculiar to a particular language (for example, *Na*, *Ra*, *Va*, *Sa*, *Pa*, *Ma*, *Ta* of Sanskrit fig. 1) are bound to occur very often because of the undergoing processes of simplification; condensation, standardization internal modification, external modification while forming into ligatures and finally restriction to the use of a few signs representing each sound as opposed to the numerous signs having homophonous value of the logographic writing system.

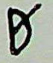
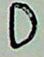
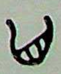
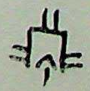
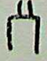
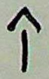
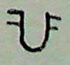
In the plates that follow the text the inscriptions are arranged in a logical order so as to find out the inter-relationship of the known signs with the interchangeable used in most cases in the same context. This repetition of the inscriptions with alternatives gave the important clue in fixing the phonetic values to the interchangeables. The other criteria adopted, as already mentioned earlier, are :

1. Occurrence of the signs in the contemporary scripts chiefly Sumerian and Egyptian and its transcription into the equivalent Sanskrit words for the application of the principle of acrophony.

2. If the sign was already having the monosyllabic or alphabetic value, the same was adopted, as it was done by the Indus scribes, according to the suitability to the context.

3. Suitability to the context by trial and error method and by Rebus as another method. In this case all the inscriptions where that particular sign occurred were taken and different sound values were tried for the signs until one that was consistent in all the instances was proved to be the appropriate sound value for that particular sign.

Above all, where no method could be used successfully, my intution at certain times helped me greatly in solving the problem. For example the sound value was ascribed to the monograms  illustrated in fig. 7.

Sometimes, the signs themselves by their look and form suggested the phonetic or ideographic values. For instance the  shaped bow in the ideogram of the archer suggests phonetic value '*Da*' for that sign  when it occurred separately. Likewise the form of a bird had evolved into the sign  = '*Śa*'. This may be illustrated with the monogram  which suggests the combination of different signs as  +  and  with its phonetic value *Kavana* means Hero.

Some times the parallel occurrence of the signs, in the Phoenician Runic, Ogam, etc., scripts gave out their secret. Since Vedic language belongs to the Aryans and as similarities are observed in their languages there must have been some connection in the script of the Indo-Aryan and Indo-European languages. This may be due to the common ancestor in the Vedic Aryan. Thus Indus Civilization must have played a prominent role in the diffusion of the script. In fact the present day syllabic and alphabetic scripts of the world are the token of the evolution and diffusion of the script from the pictographic sources to their present form. Otherwise there is no reason why a portion of the script which was adopted originally by the Indus scribes, should pass into the hands of the celts and Indo-Germanic people in the form of a Ogam and Runic scripts.

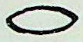
6

Evolution of the Script

After having known so much about the script it is now logical for us to consider the evolutionary stages of each sign or character that has passed through, during the centuries of its use from 3rd millennium B.C. to 9th cent. B.C.

Evolution of the script depends largely upon (1) the writing material such as clay, steatite, stone, pottery, metal, leather, paper, etc., and (2) upon the implement or stylus, pen used for writing. It is a matter for convenience and availability of the material to the writer.

DIFFUSION OF WRITING SYSTEMS

It is a well-known scientific fact that all the ancient scripts like the Egyptian, Sumerian, Hittite, Cretan, Cypriote and Indus have a common pictographic origin though the sound values ascribed to the signs differ according to the values in the sounds that represent particular objects in different languages. There are certain exceptions to this rule in the scripts belonging to a subsequent period than the Egyptian, Sumerian, Cretan, etc. Here sometimes, while adopting these scripts for their language needs the later civilizations Indus, Cretan, Hittite, etc., borrowed the signs ascribing the sound values to the signs after translating them into their own language. Sometimes when the sound represented monosyllable which did not give them scope for any translation or alteration, and when the sound in the original script happened to be the same in their language, it was incorporated as it occurred in the original script. While considering the evolutionary stages we have to study it as it occurred in the parent language, without taking cognizance of the phonetic value for the sign. Example of this may be cited from hieroglyphic sign  for mouth, and the same differently shown in Phoenician with or different phonetic value 'P'.

In course of time when the scripts had very much evolved all over the world, and when writing methods and signs were simplified and when the syllabic signs took the abstract form, there was, as we noticed, much relaxation of the rules and result is abstraction of the signs which led to the separation of the syllabic or alphabetic signs from the signs which depict the parent and transitory stages. Added to these complexities, there was yet another complication when each sound value was represented by several signs *i.e.*, variants or interchangeables. We are at once perplexed to find each sound value represented by many signs. This is due to the fact that by this time there were wider contacts among the ancient civilized nations by way of trade and commerce, invasions and immigrations. New races with their new languages while getting themselves absorbed with the native cultures, or *vice versa*, exchange many things in this process, and certainly the language with its script is one among them. In the light of the above observations we may safely assume that the more there were relaxations to the principles of writing systems, the more would be the interchangeables for each sound value in any language. That was also an indication to say that the language had attained the height of evolution. We have to bear in mind here, that, because of its conservative policy in closing the door for any changes and new ideas in the system of writings, the Egyptian hieroglyphic system remained in the same old form when the rest of the world advanced in inventing the most simplified system of writing.

STUDY OF EVOLUTIONARY STAGES IN INDUS SCRIPT

To return to our point. Indus Script with its varied system of writing and interchangeables does show all the evolutionary stages of the signs. Unfortunately, this evolution could not be traced from the 972 seals that have been recovered from stratified deposits from Mohenjodaro and Harappa as illustrated in plates.

It is right to trace the evolution of the signs from the original pictographs or better to trace the signs that conventionally represent original objects to the stage when these reached to the syllabic or proto-alphabetic stage where these attained abstraction. From these interchangeables the scribe would select particular signs, sometimes, according to the context and sometimes capriciously. Seal Nos. V. 316 and V. 251, Mc. 265 and M. 106, M. 444 and Mc. 323 (Sl. Nos. 990, 991, 996, 997, 1000 and 1001 of fig. 98) illustrate the writing of the same 'name' with different signs in each seal. This is conclusive proof for the existence of variants and interchangeables (alternatives) in the Indus Script. To be able to trace out the evolutionary stages of each sign we should be aware of the sound values each would represents in the first instance.

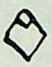
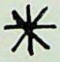
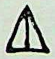
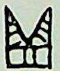
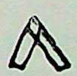
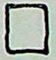
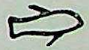
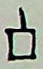
Without knowing this it would be impossible to trace out the evolution especially when the signs assume abstract forms.

Now, being well equipped to trace out the evolutionary stages of each sign, we may question what would be the purpose served after all by such an attempt. The advantages of such an analysis of the script, are by no means, insignificant.

Such a study would help check the sound values we have ascribed. It would suggest clues in dating the script. It would tell us the impact of the foreign cultures on the script. It would throw light in reading some other undeciphered scripts, on the evidence of its similarity. It would bridge the gulf of the dark age by suggesting a link with the already known scripts such as Brahmi in India.

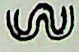
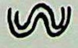
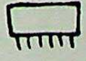
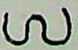
ARCHAIC CHARACTER OF THE INDUS SCRIPT

Coming to the point once again the script in its early stages bears resemblance to the archaic Sumerian. It is datable to Lagash period from the time of Urnina, Eannatum, for certain signs and ideographs *e.g.*

bear very close resemblance to the above period . We may assume that the archaic Sumerian and the proto-Elamitic linear script, might have been derived from the Indus Script on the evidence that the Indus Script continued in the same form for a long period and the archaic Sumerian and proto-Elamitic being borrowed from Indus Script, died out the moment those countries lost contact with the Indus. The earliest forms of signs that appear on an icon described by Father Heras points out the archaic nature of the script which no doubt travelled to Sumer from India.

No doubt this requires further proof since chronologically the Sumerian civilization is earlier to Indus Civilization.

Another link regarding the archaic character of the writing which might have originally started in India can be traced out in the Kulli culture. Here the peculiar signs    (MANA) were borrowed by the Egyptians. The second sign occurs in Harappa as  . In fact, early Egyptians believed that their ancestors had come from the Gods' land (TANETR) from south-east known as Puene or Punt, which is made clear by my reading that it belongs to Indus region known as 'Pavana' or Puna' (the land of the Sind). The Sumerians called it Sim or Dilmun.

Then the Indus script showed certain evolutionary stages imitating the Babylonian cuneiform style of writing and then it passed to the abstract linear forms as occurred in the Semitic scripts, Ogam, Runic and Brahmi. Fig. No. 18 clearly shows that certain Brahmi characters closely resemble the Indus signs in shape as well as sound. This fact confirms that Brahmi script was developed from Indus Script. All these different stages are illustrated in fig. No. 21.

To sum up : Evolution of any script from pictographic stage to the alphabetic stage is a logical process that any one can expect. But this evolution of the script is directly linked with the system of writings *i.e.*, pictographic, logographic, syllabic mixed with ideographic, pure syllabic and finally alphabetic stages.

ANALYSIS OF THE INDUS SIGNS

After a thorough analysis of about 1000 seals and sealings obtained from different strata at Mohenjodaro and Harappa, a clear picture has emerged concerning the Indus signs and their evolution (vide figures No. 14 to 17 and 22 to 24).

We have a total of three hundred and sixty three signs in the Indus Script from the early period to the late period and from all the excavated sites of the Indus Valley civilization.

For our study of the evolution of the script we require information regarding the total number of signs used by the scribe at one particular phase or period of the Indus civilization. This has been worked out by the author (vide figs. No. 27 and 28) and a final picture is as follows :

We have in the early period at Mohenjodaro (excavated by Mackay) a total of 68 signs used by the scribe. Since Mackay has revised his opinion about the stratification at Mohenjodaro, there is some change in the total number of early signs from 68 to 139. This is due to the result of the changing of Intermediate III phase to the last phase of the early period which was destroyed by a great flood. Almost all the signs were also used by the scribes of the Intermediate period. In addition to their own new creation of the signs. Thus during the Intermediate period the total number of signs used by the scribe for preparing the seals and sealings are 247 according to revised stratification by Mackay. The scribes of the Late period have discarded some of the Early and Intermediate signs and used the remaining along with their own creations of new signs. This make the total number of signs to be 143 during the Late period.

The same process was carried out at Harappa also but the total number of signs used and the total number of seals and sealings engraved in each period is diminished a little. The following are the details :

Mohenjodaro (Excavated by Mackay)

	Total signs used	*Total number of seals and sealings used*
1. Early period	139	133
2. Intermediate period	247	300
3. Late period	143	109

Harappa (Excavated by Vats)

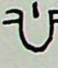
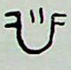
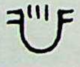
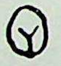
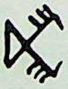
1. No Early period remains		—
2. Intermediate period	101	100
3. Late period	116	93

INVENTION OF THE WRITING SYSTEM TO SUIT THE NEEDS OF SOUNDS OF A LANGUAGE

On the above evidence we may draw certain conclusions regarding the evolution of the Indus Script. The script did not evolve from pictographic or pictographic—ideographic stage to the present syllabic mixed with ideographic stage at the Indus Valley sites though some examples of the above each stage can be found in some Indus seals and sealings. Perhaps, this is because the Indus scribes were familiar with the different methods of writing either from Babylonia or Egypt. With this knowledge of the writing system they have invented their own script. Here they were saved from many pit-falls and from many troubles and slow process of evolution in inventing the writing system. This is the reason for the non-existence of the evolutionary stages in the Indus Script right from the beginning to the end except for a negligible few sings. This is also true that in the earlier stage they did not have many variants which were used by the late scribes in the intermediate stage. If there any such attempts at inventing the writing independently by the Indus scribes we should have got a long cumbersome list of ideographic and phonetic signs numbering 1 to 2000 sings as in the case of the early Sumerians who invented the first writing. On the contrary we found an amazingly few basic signs totaling to 135. These 135 basic signs would do well for any syllabic writing system especially that of Indus Valley inhabited by the early Indo-Europeans. The Indo-European sounds consist of five vowels (A,E,I,O,U,) and 28 consonants (5 gutturals, 5 palatals, 5 labials, 5 dentals, 4 semi-vowels, 3 sibilants and one aspirate) Since the Indo-European language is of syllabic nature the scribes had to choose such a writing system that would suit the needs of syllabic nature. For this reason they have invented their own scripts by creating signs and by assigning the phonetic values on the principle of acrophony which was familiar to their contemporaries, the Sumarians, Egyptians, etc. Already there existed in Babylonia a syllabic mixed with ideographic cuneiform script. But this was of a different syllabary where vowel sound precedes the consonant sounds and some times consonant+vowel+consonant (the closed syllabic system) was also invogue.

INDUS SYLLABARY

The Indus scribes preferred an open syllabic system with a consonant+vowel with the advantage of the consonant being used without any vowel at the end whenever required, especially for conjunct sounds. The credit of inventing a simple syllabary along with separate vowels with a comparitively few number of basic sings in addition to a few ideograms goes to Indus Scribes. For some constantly recurring signs the Indus scribes have incorporated the 2, i, u, three vowel signs by way of diacritical marks in the sign itself : (Example

     vide fig. 6. Other vowels *e* and *o* follow consonants, (vide fig. 7). Naturally these process require only a limited number of signs totaling to 100 to 150 along with ideograms and determinatives to meet the needs of syllabic writing of their language. This small total number of signs grew in the later periods to 247 and 143. As a result of the use of variants and other shortcut methods of writing like conjuncts, monograms, abbreviations and ideograms followed by phonetic compliments, etc.

In order to know the basic signs we have to eliminate all such ingenious devices and unnecessary variants from the script. Thus, as a result of the analysis it became revealed that the script originally in the early period, consists of sixty-seven basic signs, eighteen ideograms and one determinative.

To assume an alphabetic stage in the Indus Script it is required that the total signs used at any particular phase of the civilization should not be more than 40 signs and less than 22 signs. For several unsuccessful attempts have been made to decipher the old Persian inscriptions of the cuneiform-I stage on the assumption that it is syllabic because the total signs are 42. But these 42 signs are too little for any syllabic writing. So later decipherers assumed it to be alphabetic and finally they cracked the code.

Like wise we cannot assume that the Indus Script is logographic on the ground it could not produce a large number of signs 1 to 2000 as found in the early Sumerian levels in Babylonia, to meet the requirements of several word-values and ideographic-values.

It is therefore proved on the above analysis that the Indus Script is ideally suited to write a syllabic language in the syllabic mixed with ideographic signs totalling about 150 signs in each phase of the civilization. This can be compared with such a stage of Babylonion cuneiform with a total of 111 signs or of Neo-Babylonian cuneiform with a total of 400 signs. Thus it is clear now that Indus Script at Mohenjodaro and Harappa does not show any alphabetic stage of evolution though certain alphabetic usages have been noticed in the seals and sealings.

7

Styles of Writing Peculiar to the Indus Civilization[1]

INTRODUCTION

An endeavour has been made in this chapter to study mainly the nature of its writing system. No doubt, one has to assume certain basic things on certain clues only to analyse any conglomeration of material especially when one does not know its language. It is on this framework of certain assumptions on the nature of the language and the system of the language obtained through the reading of the seal "*MAKHANASANA*" on principle of acrophony that the following analysis and interpretations of its writing system and pattern of language have been attempted.

DIRECTION OF WRITING

Right to Left

At the outset, we have to know the direction of the script on the Indus seals, sealings and other objects. The Indus scribes usually engraved the seals on stone, copper, ivory, shell and terracotta objects from the left hand side to the right as revealed by the keyseal which I read as Makhanasana on the principle of acrophony, in the year 1969. In the sealings or impressions of the seals, we notice the direction of the writing should naturally be from right hand side to left. On this basis we have to take that the Indus people were accustomed to read and write the script usually from right hand side to left. The presence of an animal or a totem sign in the foreground of the seal or sealing gives clue as to the direction of the writing on the seal since the direction of writing in such cases usually proceeds from the head of the animal to its tail, (with certain exceptions). Vide figures :

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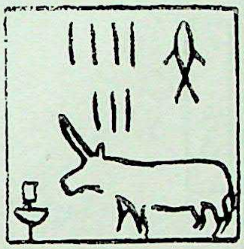
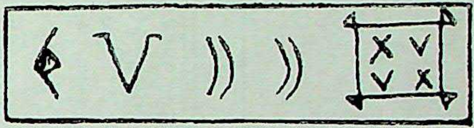
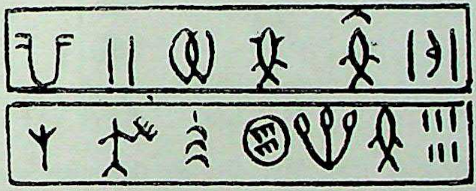
[1] Paper Presented to the *7th Annual Congress of the Epigraphical Society of India*, Calcutta, 1981.



V. Pl. LXXXIV 2.



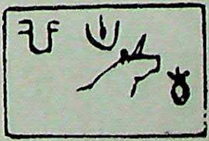
V. 713 GRAFFITI



M.c Pl LXXIV COPPERBLADE

By this method many seals and sealings have been studied and the position of each sign facing left on seals and right on the sealings have been ascertained which has further facilitated the reading of the seals without the presence of totem or animal sign in the seal. Though we find a number of seals inscribed in many lines from left to right we occasionally get certain seals inscribed irregularly. We shall take these seals and sealings for study here.

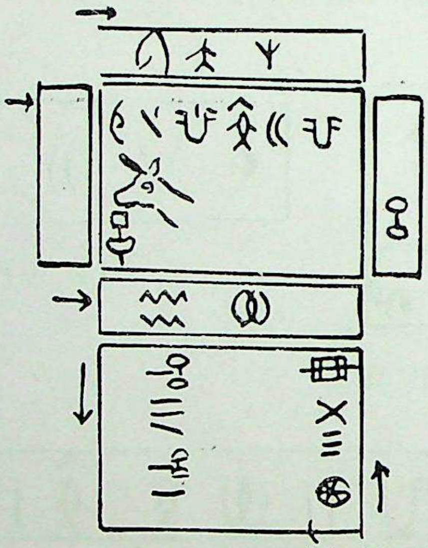
Left to Right



Seal H2 5311/93
NATIONAL MUSEUM

Boustrophedon Writing

We find such alternate writing from right to left in the first line and left to right in second line in the following sealings.

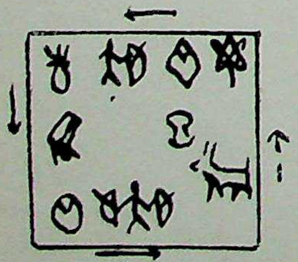


Mc 405 REVERSE

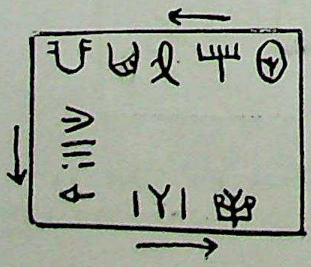
As far as I know seal No. Mc. 405 is the only exception from this usual direction of writing. One more interesting feature of this seal is that it was re-used by another kind by way of engraving his name on the sides of the seal as *Ummannappa.* This shows that the Assyrian king Assur Nirari left the administration of this land on his viceroy. This seal has been reused by an Elamite prince, Ummannappa son of Urtaki over the name of an earlier king of Assyria and Babylonia, Salmanesser V (Nisurana ?) known to Babylonians as Ululaju.

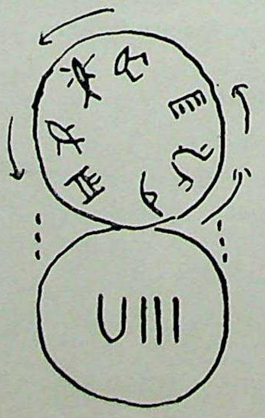
Writing around in the anticlock wise direction from right to left

We find occasionally such seals, for example :

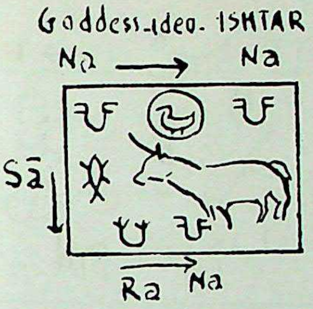


MEMOIRS OF A.S.I
NO 48, 1934
Pl XVII-39

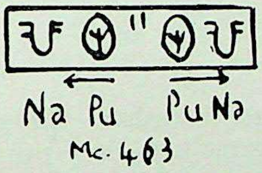


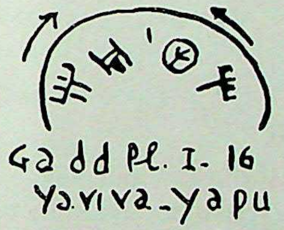


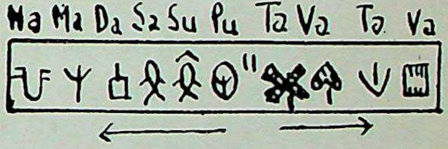
Writing from left to right and top to bottom on the seals


Goddess-ideo- ISHTAR
Na
Na
Sā
Ra
Na

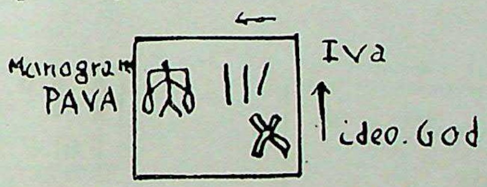
Writing from right to left and left to right in the same line with a break in the middle


Na Pu
Pu Na
Mc. 463

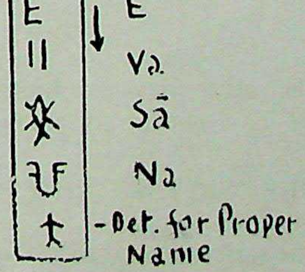

Gadd Pl. I- 16
Ya.viva-yapu


Na Ma Da Sa Su Pu Ta Va Ta Va

Writing from bottom to the top and right to the left

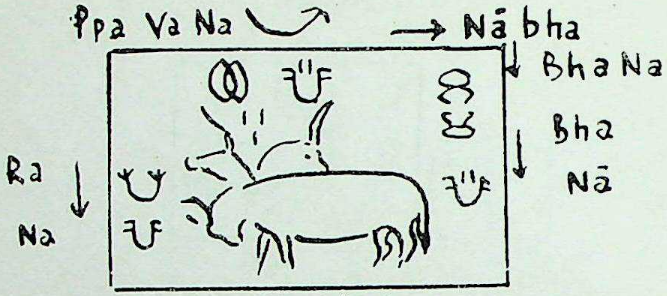

Monogram
PAVA
Iva
ideo. God

Writing from top to the bottom


E
Va.
Sā
Na
-Det. for Proper Name

BRONZE CHISEL
FROM KALIBANGAN

Writing from top to bottom and right to left

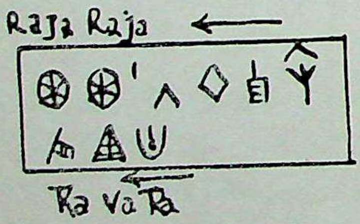


Names of several Gods:
Rana, Pavana, Nābhanā, Bhana,
Varuna and Nanā

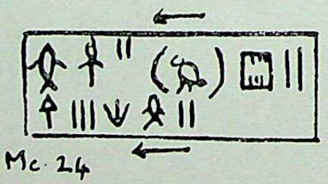
Writing in two lines from right to left

If the line is filled up with the signs and some more signs have still to be written, the scribe usually writes the remaining signs just below the last one or two signs of the first line.

Example :



KING OF MUJRI and KING OF
TA YA RA

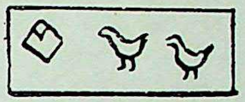


We turn now to the other devices adopted by the scribes in communicating their thoughts to others. We may take up for study some of these below :

PICTURE WRITING AND PICTOGRAMS

In picture writing the scribes engraved pictures of the things to convey the ideas and events. A pictogram is a symbol or a simplified picture of a thing which stands for the same thing or some action or direction. Later on these pictograms were used as ideograms and determinatives in the phonetic writing.

Seal No. : M. 338.



For Example :

In seal number M. 338 the bird illustrated is known in the Vedic Sanskrit as *bhabhrn* meaning the *chataka* bird. On this basis we can read the same as *Bhabha* taking the first syllables of the two pictograms of the bird *bhabhru*. The third sign is an ideogram for city. So it may be ultimately the city Babylon which was pronounced as Baba. Gradually phonetic writing came into use from such homonyms and pictograms.

Seals Depicting Pictorial Events by Means of Picture Writing

Mackay Plate LXXXII No. I & II ;—fig. 57.

In these seals the scribe has very clearly expressed himself by means of picture writing the historical events of the Indus Valley.

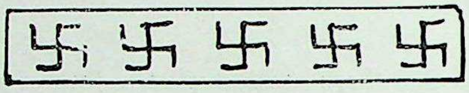
In No. I A, is depicted a heroic deed (which has also been repeatedly represented in several seals vide Marshall plate XC No. 13 and No. 23, Mackay plate CXI No. 355) in repulsing an attack of the Elamites. The Elamitie king is shown on the tree, (a symbolic expression of accepting defeat) to save himself from the Tiger (which is also a symbol of the war God of the land Pavana). *Swastika*, a sacred symbol for purity and good fortune representing the land Pavana is engraved in the centre. Next to this is depicted another symbol of strength, the elephant which was preferred by the people of the land as their national animal or a totem.

In IB, the second or middle file, the scribe engraved in Indus Script some syllabic signs which have been read by me as Elau (Elam) Tava (the middle Indus Valley), Baba (Babylonia).

Adjacent to these signs are shown some human figures probably representing the gods of the defeated country and an animal representing booty. The human figures represent prisioners perhaps from Elam, Tava, and Baba.

In the lower file, the figures of a bird perhaps a cock and a goat or ram are shown as an offering to the war God standing infront of a seated human figure representing the victorious king.

To sum up, the whole scene suggests that a battle was fought by the king of the land which was represented by the *swastika*, the Tiger and the Elephant against an enemy who was defeated and shown seated on a tree. The land is very likely to be Pavana on the basis of the reading from other seals amongst them may be mentioned a seal, Vats Plate. XCIII No.306 one side of it showing a *swastika*, repeated 5 times along with some signs reading Pavana. The other side of the seal shows the same reading Pavana and a man standing and holding a musical instrument like *mridinga* and a Tiger facing him as symbol of war God. There is some bearing in the 5 times repetition of the *swastika* suggesting number five which stands for the God Pavana



it is a denomination for Pavana from the five vital winds.

The victorious king captured the enemy kings, generals and other important things. The king offered sacrifice to his God for his kind help in defeating the enemy. The whole incident was recorded by the king as an important historical event.

If we examine other such seals depicting the offering of sacrifices to God, we get more information about this incident from the inscriptions. In a seal (Vats plate XCIII No. 316) the same king was shown offering sacrifices to the God. The inscription reads king Ishtaura (King Ishtar). In seal Vats No. 251 (the upper part of the seal is missing) the same scene of offering to the God by the king has been shown. There is in addition a scene celebrating the occasion by way of deipcting seven women singing and dancing. The same name ISHTAR is written with different signs giving the same phonetic values. In a seal (Mackay Plate XCIX-A) we see same offering scene but with a change of name engraved MAKHANĀSANA instead of ISHTAURA.

If we go through the history of southern Mesopotamia, we find certain king named LIBIT ISHTAR of Isin dynasty ruling about B.C. 1864 to 1854 from the city Isin and controlling Ur, Nippur, etc., cities. During his time it was supposed that there were repeated attacks against his cities either of the Elamites or the western semitic tribes (AMURRU). In one of these attacks he lost his kingdom to the enemy. The enemy plundered the land and left.

Most probably the lower Indus Valley was under the control of the southern mesopotamian (Sumerian) rulers during that period. Perhaps Elamites also attacked the provinces of the Indus Valley which were under the Sumerian control. For, it was recorded in history that Elamites with the help of Sua people (tribe of Sibi or Vasa ?) attacked Ur and carried away its king IBISIN in the year B.C. 1936. This scene was depicted as an historic event in Indus seal found at Kalibangan which shows that the Kalibangan region was ruled by either Elamites or Sua people.

King Ishtar could successfully defend his provinces for about 10 years against these attacks and the records commemorating this historic event are available in the form of our seals.

The lower part of the Indus Valley is depicted in the seal Mackay No. 16 which may precisely be called the ancient map showing the plan of the Indus Valley.

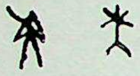
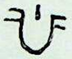
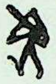
The Map of the Indus Valley

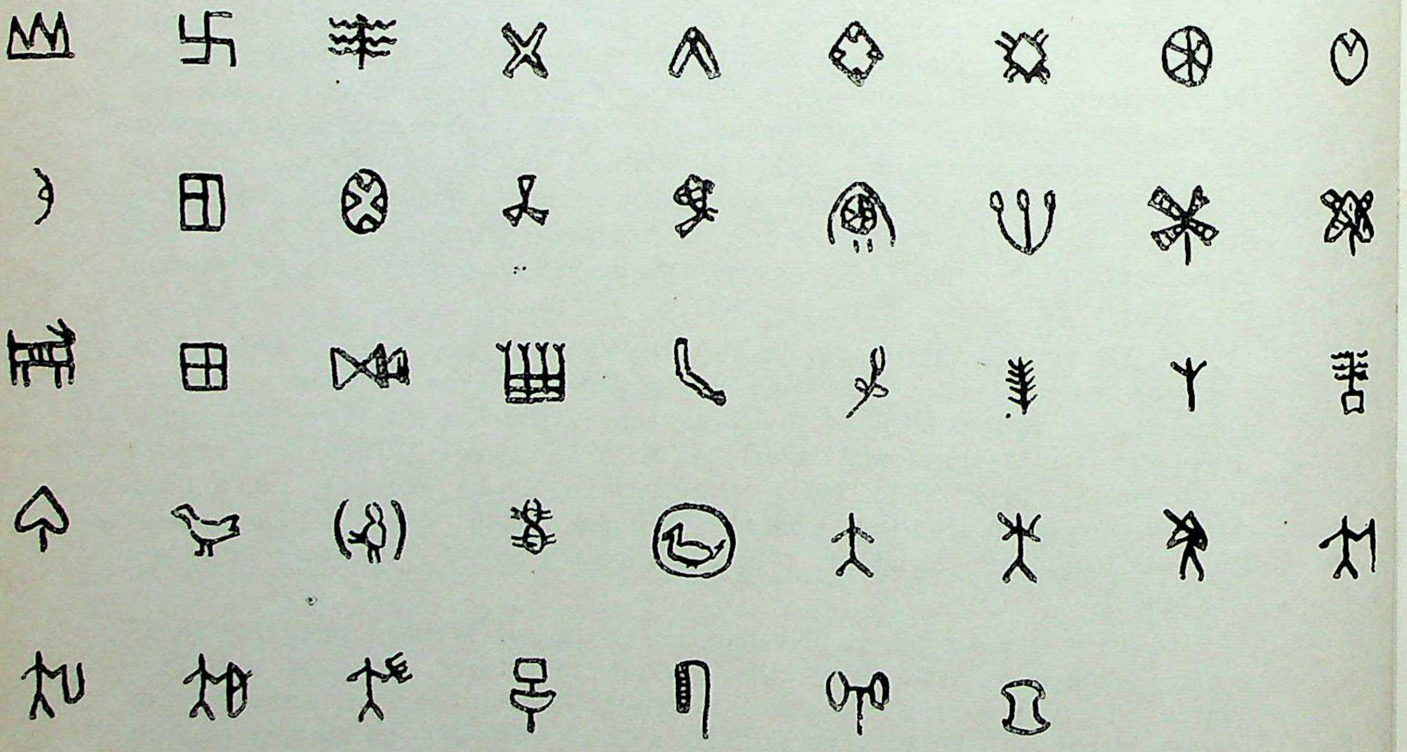
Mackay plate No. C III No. 16 Plate XC No. 10 and 2aB. The details of this map have already been given in my lecture at National Museum Dt. 29th February, 1980. It may be briefly stated here for the convenience of the readers. The scribe symbolically depicted in the above seals the regions of the Indus Valley. He suggests the river Indus by engraving a huge crocodile in the centre, flanked by totems like bulls, rhinoceros, tiger and a man seated on the tree. These totems indicate the three different regions under the control of the three different rulers. The names of the regions were also given in the above seals as : (1) Vana (Upper Indus Valley) (2) Tava (Middle Indus Valley) incorporating Rann of Cutch. The name of the river was given as Sapuna in the seal Marshall plate CXIV No. 20. The upper division known as the land Vana was depicted in seal Mackay Plate XCIII, No. 11. The middle part of the Indus Valley known as Tava is represented by the animal rhinoceros on seal Mackay Plate C II No. 7 and 13 and also Vats, plate XCIII No. 309 and Plate CI No. 4. The lower portion of the Indus Valley known by the name Rana is depicted in seal Marshall Plate XC No. 23.

The seal Mackay No. 621 mentions the names of three lands as Vana, Tava and Rana in a serial order. The capital city of Rana, was Dasa, as found in seal No. The capital city of Tava might be Yaviva as found in seal Vats No. 584 and the capital city of Vana was Masa as found on seal Vats No. 573 and also UPAPURA as mentioned on seal No. Mc. Pl. CXVI-8. There is also a mention of one more city called Ivasa (Mackay, 332) which is yet to be explored if it is not Lothal. On the seal mentioning Upapura four battle standards perhaps, belonging to the above four cities are represented.

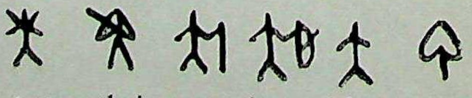
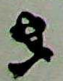
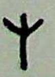
There is also a pictographic depiction on the seal Marshall plate XC No.23 showing two fighting giants with a God standing in between and intervening their quarrel. The same scene is represented symbolically with two lions and a hero in between in seals Mc. Pl. XXXIV-75 and Mc. Pl. LXXXIV-86. The readings on such seals give as Babasaka and God Varuna. The fighting giants might represent two tribes trying to occupy the land, who might have finally settled amicably. The two warring people might be Sumerians and the proto-Vedic Aryan people.

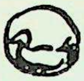
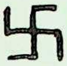
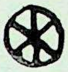
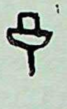
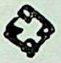
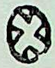
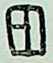
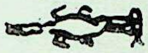
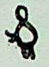
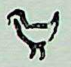
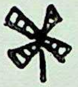
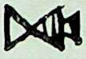
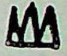
IDEOGRAMS

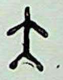
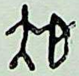
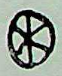
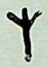
The scribes have used the ideogroms profusely like those of the contemporary civilizations of the ancient world to suggest the meaning or idea of the word specifying the class or group of things, Gods, human beings animals, plants, birds and insects etc. Ideograms are sense signs used without the phonetic value for example the signs  suggest god. These signs have been inserted in the midst of their gods who would protect them. In certain cases these signs were deciphered suggesting the name of God thus represented. In due course the ideographic sign suggestiog God was replaced with the phonetic sign, for example  for  Which stands for God Nina. The following signs illustrate the ideograms in the relevant seals.



The scribes separated the ideograms either by giving them the pictographic form or by accentuating them with double lines and shaded strokes. It is very easy to distinguish them from the other common signs.

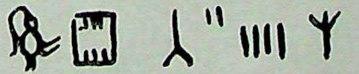
Among these ideograms, some directly suggest the meaning of the word for which it stands, for example, the signs  are pictographic representations and one may guess their meaning without any difficulty. Some signs suggest the meaning symbolically for example, the sign  locust or Bee for king, the sign  for tree or for one year, the sign

 dove within a circle for Goddess Ishtar or Nana; the signs   *swastika* and wheel for sun; the sign  sceptre for power, authority, control etc.; the signs    for enclosure, town, city, etc.; the sign  crocodile for river, the signs   for the country Baba, as these names are homonyms Babhru (Chatka bird) suggesting country Baba (Babylonia), the sign  date palm for the country Yana (Susiana) where these grow; the sign  is the place of God (Temple). The sign  suggests hilly tract.

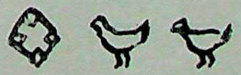
The above ideograms are used phonetically when their ideographic use was not required. For example  stands for the phonetic value '*Na*' (from Nara-Man)  for '*Dha*' from the word dhanurdhara;  for '*ra*' meaning Sun,  for 'Ma'.

DETERMINATIVES

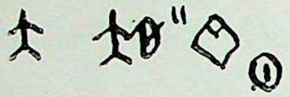
Further, these ideograms were also used as mute determinatives to suggest the meaning of the word. The following seals illustrate the use of ideograms as determinatives and as phonograms :



Ideo for city Baba. On the basis of phonetic Rebus *i.e.* the *chataka* bird is a homonym with the name Babhru for Bhabha or Babylon.

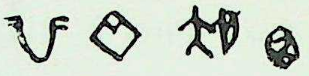


Ideogram chataka bird used as phonogram for city Baba (Babylon) Ideogram used as determinative for city enclosed by defence walls and gate ways.



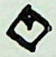
(1)

In (1) the pictograms were used with the phonetic rebus as king Dhana.

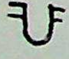
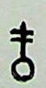
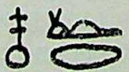
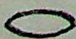


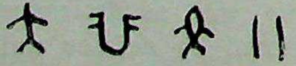
(2)

In (2) conventional sign with syllabic value '*Na*' replaces the Man. The Man with a bow is retained because it serves as a determinative for the name Dhana suggesting that Dhana is a person and that too of a warior class. In addition, the ideogram represents the word king without the phonetic value.

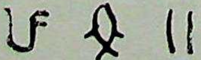
On the basis of acrophonic principle, see plate No. I reads as Dhana;  stands for raja (King). The whole reads King Dhana.

The second illustrates the different way of writing the same name. In the first seal the sign man is a determinative for the name of a person and also serves as a phonetic complement by confirming the phonetic value of the syllable as '*Na*' and of the first as Dhana, Archer Dhana.

In the second seal, the archer serves both the purposes of a determinative, as a name of a person as well as a phonogram of the name Dhana confirmed by the additional sign  with the syllabic value '*Na*'. This method of writing existed in the Egyptian writing system. For example, the sign  is a lute with the phonetic value *n-f-r*, but some scribes write *n-f-r*, by adding to the sign lute  two other signs, one is a horned serpent with the phonetic value '*f*' and a mouth  with a phonetic value '*r*'.

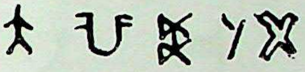


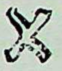
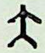
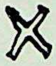
(1)



(2)

The first indicates a name *Vasana* of a person. The second does not indicate the name of a person because the determinative man is not present but reads as '*Vasana*' the alternative meaning, 'value or cloth'. Since the scribe know that the word *Vasana* had no other meaning except the personal name of man, he did not use any determinative for the word meaning cloth.

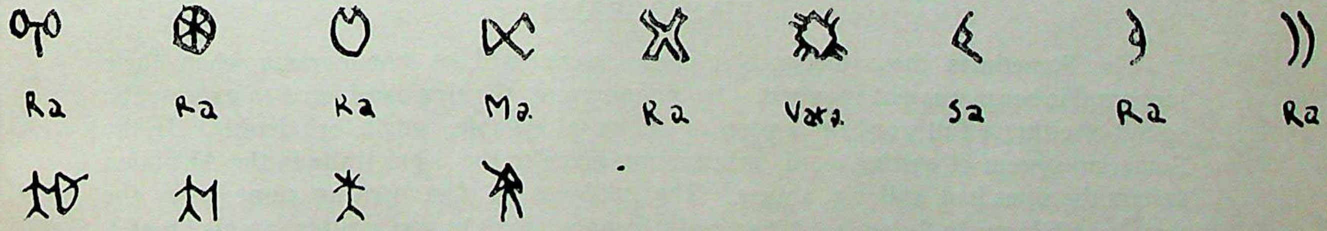
Mc. 79 

This seal reads Immana. The first sign (ideogram)  stand for God the last sign as a determinative  for the name of a person which is of God, also because of the first  ideogram.

The man determinative was used because we know the ancient people treated trees, animals, good qualities, rivers and mountains and lands as Gods and Goddesses.

Certain signs with and without the sound value *Ra*, *Ma*, *Sa*, have been used as determinative for the king God, etc, inserting them at the beginning, middle or end of the name.

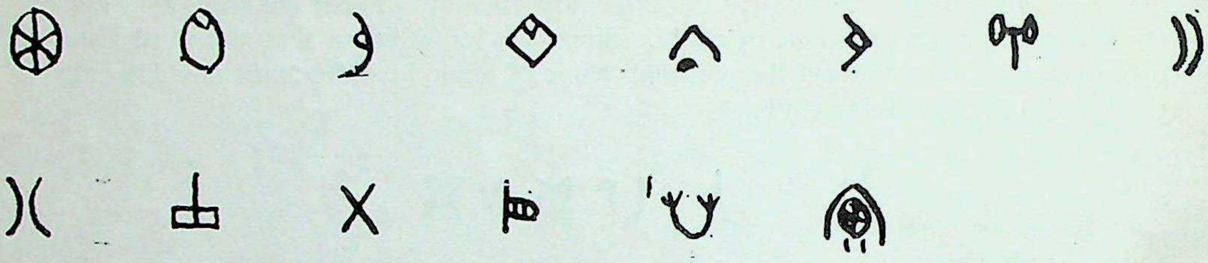
Determinatives for God



Det. or ideo without Phon. Value

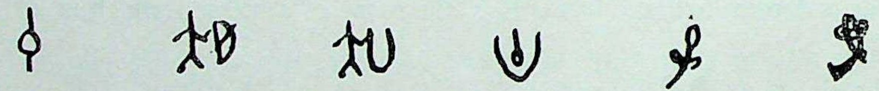
With phonetic value *Ra*, *Ma*, *Sa* and *Vara* (excellent)

Determinatives for King



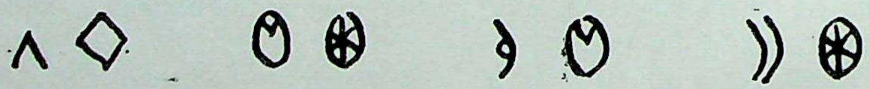
With phonetic value *Ra*.

Determinatives for King



With other phonetic values *Va*, *Dha*, *Na*, *Tsa*, *Pa*, *Sa*, etc.

Often we find two signs indicating *Ra* for example,



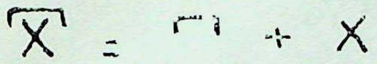
are used consecutively or followed by other signs. It may be that one represents Sun and the other Moon to whom the king is equated in early Sanskrit literature in India. Sometimes it may be due to the phonetic nature of the language where doubling the consonants occur. This may be correct where the signs do not occur consecutively.

PHONOGRAMS

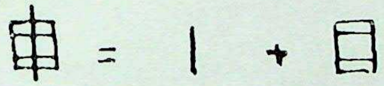
Sometimes these ideographic signs were used as phonograms when their ideographic sense was not required. In phonograms the sign was used to express the sound of either a full word or a part of it, as a syllable, single or double. In the Sumerian system of writing word values were given to the signs while in the Akkadian system the signs had syllabic values. The evidence of first writing came from the temple at Nippur in Sumeria. The word *Mana* for a weight was written on clay tablet. Another word *Damgar* meaning merchant was also written on clay tablet here. The Indus writing system was syllabic and ideographic where the words were written by means of signs with syllabic values and by means of signs each standing for a word though some times the sounds were not expressed.

MONOGRAMS

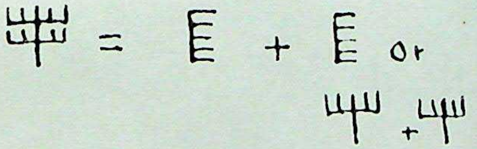
We come across another peculiar way of writing by the scribes. This is by combining, 2, 3, or even 4 syllabic signs to form a meaningful word that occurs very frequently. Let us examine the following composite signs. See figs. 58, 59 and 60.



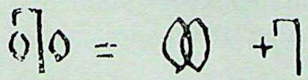
= *Vara* (excellent)



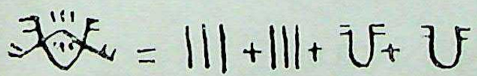
= *Iva* (God) of wind and storm of Babylonia.



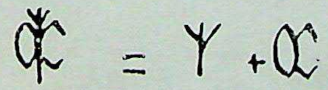
= *Yaya*=Babylonian God Ea or Enlil.



= God Pava (God of storm)



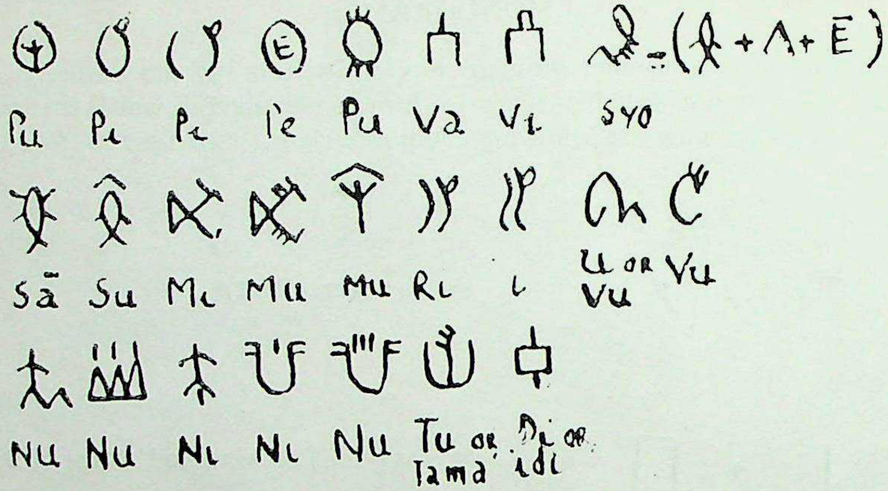
= Babylonian God of war Baba and God Nana of Babylonia.



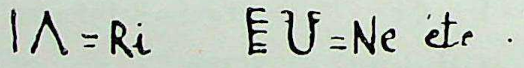
= God Mabha.

Other Composite Signs

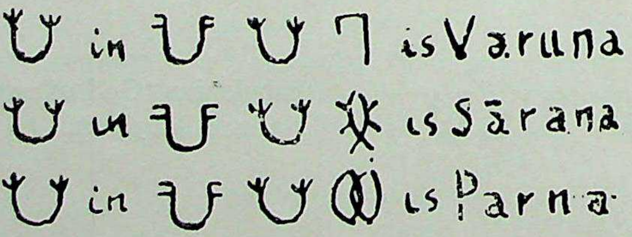
These are formed by adding vowel signs to the basic consonantal signs. Sometimes these look like diacritical marks. The following signs illustrate the use of such composite signs. Also see figs. 7, 30, 31, 58, 59 and 60.


= (A + Λ + E)
Pu
Pi
Pi
Pe
Pu
Va
Vi
Syo
Sā
Su
Mi
Mu
Mu
Ri
i
U or Vu
Vu
Nu
Nu
Ni
Ni
Nu
Tu or Tama
Di or idi

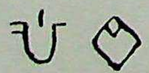
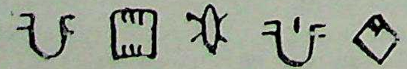
These diacritical marks are not given to all consonants. In such cases these consonants are followed by vowel signs for example :

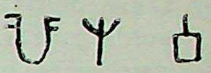


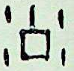
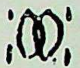
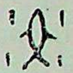
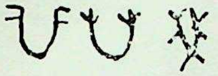
Some consonants are not followed even by these vowels. Such consonants are pronounced according to the context supplying the necessary vowels or loosing the unnecessary vowels as in the Egyptian writing system. For example :

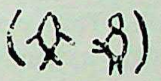
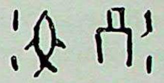
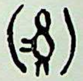

in
is Varuna
in
is Sārana
in
is Parna

ABBREVIATIONS

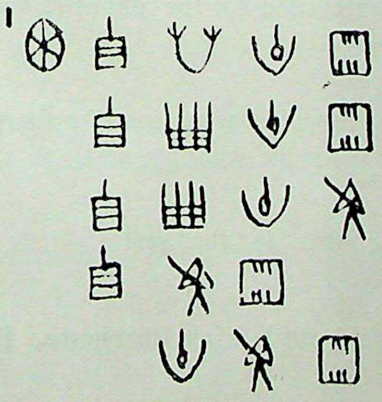
The Indus scribe has used short form of full names, sometimes in the same seals on one of its sides. For example  inscribed on the side of a seal is meant for easy stamping to acknowledge some receipt instead of the full name written on the prominent side of the seal  .

Sometimes very frequently titles and terminations were cut short with the prominent sign enclosed by four strokes on all four sides. For example 

Damana is cut short by  likewise  meant Pavana,  for  Sarana etc.

Sometimes the meaning of the word is restricted by enclosing it within the brackets or strokes. For example   perhaps meant for the tribe Sua on Savi,  meant for country or city Ba-Ba (Babylon).

The following may be used :



1 Va. tsa Raja-ideo for king

2 Va tsa Raja.

3 ideo. for Storm God - Tsa Raja.

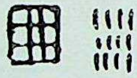
4 Va - ideo. Storm God - Ja.

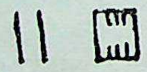
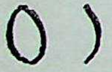
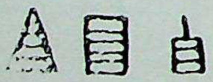
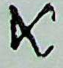
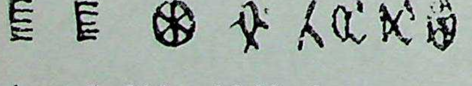
5 Va. - ideo Storm God. Tsa

6 Tsa - ideo. Storm God - Ra

CHANGES IN PHONETIC VALUES

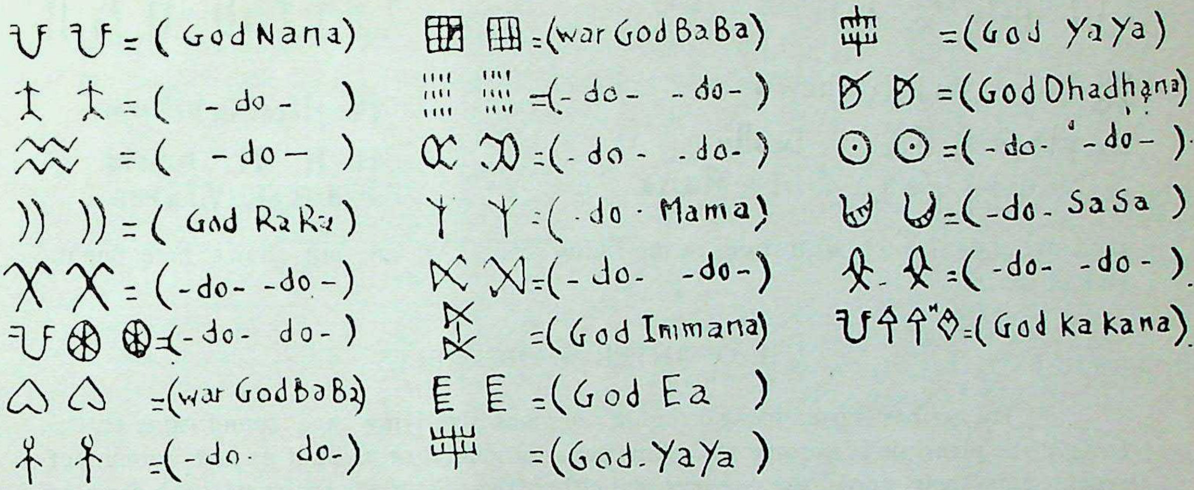
The population of the Indus cities is of cosmopolitan nature. It is composed of different races and tribes known to the ancient civilizations. We may confidently mention that among the population the Aryans, Turanians, Semitic and Hamitic races were living together in the Indus cities, though the majority of the population were Aryans and Asuras (Semitic people). Owing to the presence of these mixed races of people there was foreign impact on the language and religion of the Indus people. These different races of people introduced different signs in the script and different words, gods and merchandise into the Indus language and civilization. Sometimes the mercenaries from Elam, Babylonia and Egypt occupied the cities for a longer time bringing into the Indus language and its writing system several distortions and corruptions in the pronunciation of the words, etc. Consequently these distortions crept into the Indus writing system. These can be traced and corrected with the help of the modern science of linguistics. Some important examples of changes in phonetic values are illustrated below :

Some times the signs  with the phonetic value '*Va*' or *Ba* are misused for the phonetic value '*Ga*'. This corruption can be traced and corrected on the basis of the principle of consonantal harmony.

Likewise the signs  etc., with the phonetic value '*Va*' and the signs  with the phonetic value '*Pa*' were used for the phonetic value '*Ba*'. The signs  with the phonetic value '*Ja*' were used for the phonetic value '*Ya*'. The sign *Ma*  was used for Bha in the seal  which should read King Bhabhesha, King Ea, instead of king Mabhesha.

REPETITION OF SIGNS

This occurs partly due the names of Gods where we see the presence of repetition and duplication of consonants and vowels as shown in figure on page 57.


=(God Nana)
=(-do-)
=(-do-)
=(God RaRa)
=(-do- -do-)
=(-do- do-)
=(war God BaBa)
=(-do- do-)
=(war God BaBa)
=(-do- -do-)
=(-do- -do-)
=(-do- Mama)
=(-do- -do-)
=(God Immana)
=(God Ea)
=(God-YaYa)
=(God YaYa)
=(God Dhadhana)
=(-do- -do-)
=(-do- SaSa)
=(-do- -do-)
=(God kakana)

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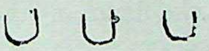
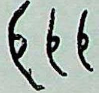
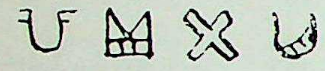
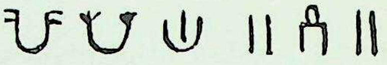
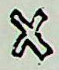
Sometimes a particular sign is repeated 2, 3, 4 or even 5 times. For example  which meant 30 years or  which stands for the denomination of the name of Moon God, if we take into consideration the Babylonian system of writing. Some signs are repeated 5 times suggesting the denomination for a particular God, for example 卐 卐 卐 卐 卐 repeats five times giving the denomination 5 for the God Pavana from vital winds. In this repetition of the signs the owner of the seal feels sometimes a sort of positive mantric effect for his betterment.))))) = Number 50. for Sun God

DISTORTION OF SYLLABLES

A syllable in a word is distorted and shown elsewhere in the same seal, its proper place being filled up either with some determinative or ideogram for example





 ideo God is shown
in place of Ta Actually
it should read Satamāna

placed in between
II II It should
Read BaRaVitāma

there are several such distortions in the Indus seals. All are not shown here due to lack of space.

USE OF INTERCHANGEABLES

The scribes started using a number of signs signifying each sound value on the basis of the principle of acrophony. Any name of animal or thing if its first prominent syllable suits their needs, the scribes used either the pictorial or conventional form of the object to indicate the phonetic value which is a syllable *i.e.* a consonant+vowel. In this way the number of signs increased though there was some standardization in constantly using only certain signs for certain syllables. There is yet another conceivable reason in selecting different signs for the same phonetic value. This may be due to the reason that the owners of the signet seals desired that their names should not be copied or imitated by others for any illegal transactions with the help of the fake seals. For this purpose they might have invented their own device or symbol for their exclusive use. In this way the number of signs increased to about 363 signs. The existence of the cosmopolitan society with several mixtures might have also multiplied the signs.

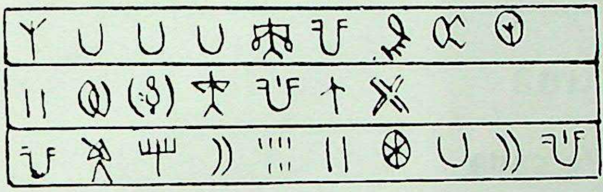
Actually most important signs that were commonly and frequently used were not more than 133 (vide fig. 26) which include ideograms determinatives and phonetic signs. In order to prevent the illegal transactions with the help of the fake seals, the scribes invented various intelligent ways of writing on seals. For example, Puns, Rebus, composite signs, monograms etc. Many of the interchangeables have already been given in my published article in the *Radiocarbon and Indian Archaeology* (1972). However some of the interchangeables have been illustrated here along with the diacritical marks indicating vowel changes of the syllable.

See fig. 61.

USE OF DENOMINATIONS FOR THE NAMES OF GODS

In Babylonian writing the scribes used special mystic numbers to each God. For example, the God of the first triad Anu, Bel and Hoa have got the numeral denominations of 60, 50 and 40 respectively. The second triad Gods Moon, Sun and

God of Atmosphere have got the denominations of 30, 20 and 10 respectively. The God Bar or Nin also has his specific number 40. Likewise, the scribes of the Indus writing system also maintained the Babylonian tradition in giving special mystic numbers to each God. For example the Moon God has got the denomination 30 (vide seal No.M.23. fig. 87).



Pu Bha Syona (manigram PAVA) 30 years.ideo.
country. or King - for Year)
ideo. God. Vani (— do —) (ideo. for BaBa)-PAVA.
Ni Ra Na ideo. for king. Va Ra (Distorted)
Ka Va Ya Na -ideo (Storm God)
= Va Ra Ka Va Yana Raja NIRANA-meaning
Excellent Hero, King NIRANA

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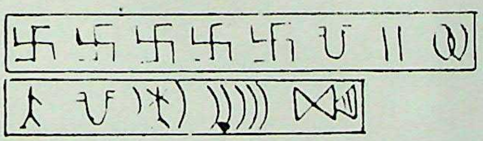
30 is the denomination for the Moon god. The kings of the Indus Valley also celebrated the sed festival like the Egyptians after completing 30 years of their reign. Moon was the God for measuring time in all ancient civilizations.



1) Pa Va Na - Repetition of Swastika suggests mystic number 5 for God PAVANA
2) ideo. for Temple - 50 - Ra Na (ideo. Sun God) Det for Proper Name
(Number - 50 suggests Sun God RANA)

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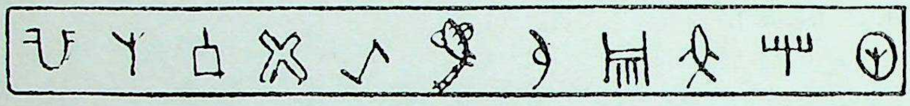
In seal number Vats. 306 the *swastika* is repeated 5 times indicating the special mystic number 5 for the God Pavana, from the five vital winds. God Pavana also is written on the seal.

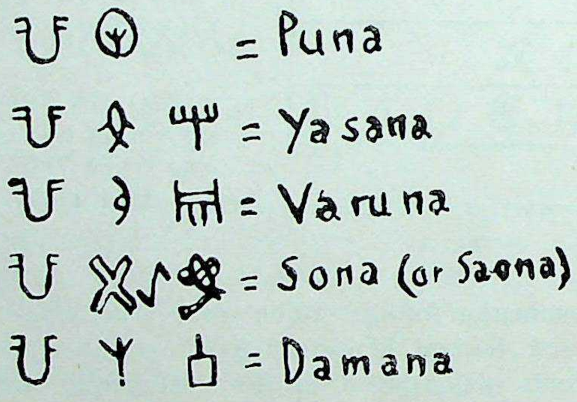
In this seal (2) the Rana (Sun) has the denomination Number 50.

NAMES OF THE GODS, KINGS, PEOPLES, COUNTRIES, CITIES AND TOWNS

The names of Gods are mostly composed of 2 or 3 syllables. The name of the kings and common people are composed of 2, 3, 4 or 5 names of Gods. Sometimes when the names thus composed are long, the scribe abbreviated them by taking the first syllable of each name and retaining where ever possible the common last syllables of the names of Gods at the end. For example, the following seal mentions the names composed of initial syllables of names of several Gods given below.

V. 3334 fig. 87.





The names of countries, cities and towns are formed after the name of each God. These are illustrated below.

See Plate Nos.

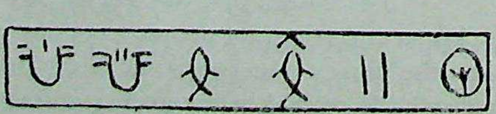
(a) *Names of Gods :*
See fig. 62 and 63

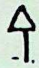
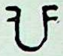
(b) *Names of Kings* :
See fig. 64

(c) *Names of Countries, Cities, Temples, Towns etc.*
See fig. 65 and 66

MORPHOLOGY

The names are formed around the stem of one, two or three syllables indicating the name of God, and the word is further extended by way of suffixing and prefixing syllables that often do the work of adjectives giving the meaning, powerful, strong, destroying, pushing, crushing, good etc. The following seals illustrate the above use. The prefixes in most cases are



The suffixes are  ,  . For example, if *Dama* is the stem, many words are formed by prefixing and siffixing the stem '*Dama*' as illustated below : (See figs. 67 and 68).

Dama (God' name as destroyer)
Damana
Idamana
Nudamana
Pudamana
Sudamana
Pusudamana
Ranadamana
Vanidamana
Babadamana
Puvasadamana
Banadamana
Sabhana Damana
Pususadamana

See Pl.X for the formation of words from the stem *Rana*.

SEVERAL WAYS OF WRITING THE SAME NAME

We often notice the intelligent scribe was at work inventing new methods of writing the same name. Actually this gives us clue to the finding out of the phonetic values for various other signs. We shall examine some seals of this nature.

See fig. No. 69.

BREAKING THE CONTINUITY IN THE SPELLING OF A WORD BY MEANS OF INSERTION OF OTHER SYLLABLES

Some times the names of the countries or the words meaning excellent, strong, God, King, Hero, etc. are engraved in between the syllabic signs of a name breaking the continuity of its pronunciation.

See fig. No. 66—last name and sl. numbers 12, 13 and 18 of Pl. 64

CONCLUSION

An attempt has been made in this chapter to study the nature of the Indus writing system which is found to be composed of both syllabic and ideographic, like ancient Akkadian (Babylonian) and ancient Egyptian hieroglyphic writing systems. The above analyses of the script has also revealed to us the inflective language pattern of the Indus civilization. It is, therefore, abundantly clear now that the Indus Script was used by different racial types not only at different regions of the Indus Valley but also outside the Indus Valley for example in northern and southern Baluchistan, Afghanistan by way of potter's marks and by way of decorative motifs on pots; and in Elam by way of proto-Elamitic script, and in Babylonian cities and the coastline lands of Gulf of Oman by way of seals and sealings of Indus type.

From the above study of the language pattern it appears that a mixture of different dialects were used in the Indus Valley though the main stream of the language is of proto-Vedic and proto-Avestan.

One thing is certain that in spite of the local dialects in vogue, the phonetic values ascribed to the signs continued to be the same from the beginning to the end of the civilization though there were some evolutionary changes in the signs from the monumental to cursive styles.

Briefly, the Indus writing system comprises different directions of writing and different systems of writing such as picture writing and pictograms, ideograms, determinatives, monograms, abbreviations, etc. The Indus people have also adopted various other methods in writing their names; they have used interchangeable signs, they have used special signs for the names of Gods, Kings, Peoples, Cities, Temples, Forts, etc., they have adopted several ways of writing the same name. Above all, it is revealed that the formation of words in the Indus language is unparalleled in the history of ancient civilizations.

8

Highlights of the Reading of the Script

All the inscriptions revealed by the Indus seals and sealings may broadly be resolved into the following groups :

(1) Names of Gods, (2) Names of the kings, Indian as well as foreign, (3) Names of merchants and ambassadors and persons of other trades and professions as warriors etc., (4) Names of towns and cities, (5) Names of tribes, races, families, (6) Names of plants and trees, (7) weights and measures, (8) Currency, (9) Birds and insects (10) Implements etc., and (11) Weapons.

The most interesting feature is that the names of all vedic gods have appeared. These are : Makhanāsana (Indra); Isāna (Rudra); Varuna (Savana); Surya (Syona); Agni, Vayu (Pavana, Raman). New names are, Sabhana, Vina, Yasana, Puna, Nina, Nana, and Ishtar, Baba, Iva, Ea, Yaya, etc.

We have got also the evidence of towns and cities mentioned in vedic texts. Upa Pura, City Yaviva, City Masa, Vraja Dasarna, Naramana. Names of foreign cities such as Ur, Tasra, etc., are noteworthy.

We have got the evidence in the seals also of the tribes and races mentioned in vedic texts such as Yadu, Kekaya, Saka, Vinasaka, Visāna, Pani, Aryan, Asura, Nivata Kavana, etc.

With the arithmatical precision we could bring into light the weights and measures such as, *Bhāra*, *Upa Bhāra*, *Mana*, *Ekasapha* (*Ekasatva*), *Pada*.

The different denominations of gold and silver currency revealed to us are *Suvarna*, *Syona*, *Sana*, *Kasamana*, *Puna*, *Pada*, (*Ni*) *SKA*; *Bhasasuvarna*, etc.

Among the names of kings, we have long new lists to add to our knowledge of the vedic times, Pisyavana (Suplan or Sahadeva), Kavi, Sarya, among vedic kings and Ravana, Pipra, Bana, Susmah, Nava, etc. among the Asura Kings.

We have the names of foreign rulers and Gods from Egypt, Sumer, Babylonia, Assyria, Elam, Crete etc. The list containing the names are appended in fig. No. 74 and 75. Special mention may be made of Mana or legendary Mena or Narmer, Ur Ea, Solomon, Pama, Piru (Egyptian Pharaoh).

Certain hitherto unknown names of the Punjab, Sind, Saurashtra regions have been brought to light for example Tava, Vana and Rana. During the long successive periods of occupation of these areas by the Indus people and their descendants and foreign immigrants, the names of the places also got changed and may be quoted for instance the Pavana (Dilmun or Dim when 'l' is not vocalised, meaning to filter) which later on changed as Punt in Egyptian and Pune (to purify in vedic Sanskrit). Punjab region was known as Saka dvipa or the land of Sakas which again was changed to *Maga* or *Makhadvipa*. The Sind region was known as Pavana or Pune or Punt or Ophir, or Abhira, from where the First Dynasty of Egyptians migrated to Egypt and brought sun worship to Egypt. During the Vth and XIIth Dynasty times, the Pharaohs of Egypt led expeditions to Punt.[1] The tribes known to us Vasa, Vatsa, Matsya, Madra, were actually immigrants from Elam and Egypt Vasas were known in Elam as Basha. Vatsas were known in Egypt as Wadtsa, who might have once migrated to Egypt from India. The occurrence of the black and red ware with graffitti suggests the connection with Egypt where also similar pottery occurs. There was regular trade between India and Egypt. There is no wonder that during the Vth Dynasty times the Indus region was subordinate to the Egyptians.

During the times of Solomon, Sind and Punjab was under the control of the Abhiras and probably was known as Ophir and trade was carried out with Ophir as well as other countries as referred to in the book of Kings.[2] Even earlier also (12th and 11th centuries B.C.) Indian traders and merchant princes, the panis or phoenicians were having their colonies or ports along the coast of Asia Minor around Tyre, etc. This fact is borne out by the evidence of the title as in Nanasārna on one of the Indus seals (Nana the tyrant). The Philistine kings were known as Serens (Tyrants). Similarly in the names of Surya data, Yasana data or Yazdata, etc. in the Indus seals as well as the names of merchant princes occurring in Amarna tablets from Egypt suggests the trade between India and Egypt and other Phoenician colonies by the Indian merchant princes. The Buddhist Jataka tales though belonging to a late period refer frequently to the overseas trade by the merchant princes during the 3rd cent. B.C. and earlier. There was a break

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1. Hall, H.R., *The Ancient History of the Near East*, London, 1924, p. 290.
2. *Ibid.*, p. 434.

in trade during the 10th and 9th cent. B.C. due to invading hordes of Ophirs, or Abhiras about whom there was a mention in our early Sanskrit literature. Again the trade was restored during the time of Solomon in the 10th cent. B.C. when the overseas piracy was successfully controlled. There was again break in the trade contacts in the 7th cent. B.C. when Indus region and other parts of the ancient world were conquered by the hordes of the Sakas. For names on the Indus seals, 'Saka', Bhaya Saka, also the other names ending with '*damana*', certainly suggest Saka impact on Indus cities. We may deduce from this frequent periodic invasions of the barbaric races that there were overall weakened and unstable governments during the four or five centuries that followed the death of Solomon. This period was the dark age in most of the ancient countries. The Sakas who were known as Goths were chiefly responsible for the downfall of the Indus Civilization. Once these Sakas (Magas) lived together with Aryans, Vatsas and Vasas, in Indus Valley, Elam and Egypt. We may not attribute the decline of the Indus people to the Sakas only, because there were earlier invasions by Ophir or Abhiras also which made the people so weak finally as to succumb to the Sakas. The Sakas had swept almost the entire ancient civilized world, Crete, Egypt, Babylonia, Assyria and Indus Valley. The Sakas, on the basis of the graffitti occurring on the black and red ware and its similarity on the Harappan ware, which gives us some clue as to their living together with Aryans, were the authors of the megalithic culture in India. Some of the important readings are given below :

FOUR THOUSAND-YEAR OLD MAP OF THE INDUS VALLEY

Four thousand-year old map of the Indus Valley ? Yes. One may be skeptical about it and may jeer at the idea of a map ever existing in the minds of the civilized people of the Indus Valley. If one goes through the following pages with patience, I am sure all doubts regarding the existence of such map will be cleared and a map would emerge.

Seal No. 1, Fig. 57 (Mackay Pl. CIII No. 16) is the key seal where the map of the Indus Valley is symbolically depicted. In this seal is depicted a crocodile at the centre flanked by, on the upper file, two fighting bulls. In the middle file on the left a rhinoceros is engraved while the right side is kept blank. In the lower file an elephant on the left and a very popular subject of a hero seated on the tree in order to escape from the danger of tiger which is growling at him. Because of its frequent occurrence we may take it as a pictographic expression of a certain popular legend which the people tried to remember it by way of engraving it periodically.

It is necessary for us to analyse the subject in order to understand the purpose and meaning of this entire depiction. For this we need to bring together all those seals where the depictions of the above scene are engraved part by part. We get a complete picture by putting together these separate parts.

Let us examine the seal Sl. 1 of Fig. 57 at the outset. The crocodile is according to the post-vedic literature, a *vāhana* for the river goddess Ganga which has been repeatedly depicted in the temple Kailasa and elsewhere in Ellora. It is also a *vāhana* for the god *Varuna*, the guardian deity of the west and also god of the ocean. In the proto-vedic period he has played a dominant role as the supreme god of the Aryans, whose place has been taken over by Indra in the Rig Vedic and later stages of the vedic period. He is compared with the Oannes, the fish god of the Sumerian and Oranos of the Greek mythologies respectively. It is important for us to understand here that the crocodile is symbolically represented for the river Indus and the people of its valley, just as a dragon is symbolically represented to suggest the entire yellow race. On some other seals (Marshall Pl. CXVI No. 20) a similar crocodile with fish in its mouth and with a legend has been found and deciphered by me as '*Sapuna*' as the name of the river Indus in those ancient days.

Concerning the animals on both right and left sides of the crocodile, it has to be emphasised that these are the totemic symbols for each tribe ruling in those parts of the country (*i.e.* Upper, Middle and Lower Indus Valleys including Gujarat) where the animals are depicted. In my earlier paper (1972) I have already pointed out that the combination of two, three animals suggested confederation of the tribes having those animals as their totemic symbols.

Our next riddle is how to distinguish each region as represented by the animals in the seal 1 of Fig. 1. The scribes have repeatedly depicted such animals sometimes with legends on several seals. With the help of these seals we can reconstruct the story of the Indus Civilization.

Seal No. 2 of Fig. 57 (Mackay Pl. XCII No. 11) depicts a continuous scene in three parts on three sides of the seal 2a, 2b, and 2c. On 2a, is depicted two fighting bulls and part of a legend reading king of '*Va*. '*Na*', the Indus sign which completes the meaning of the word is given on 2b along with the depiction of a hero (Kavi) subduing a bull. On 2c is given the name of the hero as *SA PU* (Kavi or Kavana as monogram) *NA*; (*i.e.* Kavi Supuna meaning tyrant of the country *Sapuna*, the Indus Valley region).

It is very interesting to note that the same fighting bulls shown on 2a, are also depicated on Sl. 1 in the upper file. By this it is clear that the area *i.e.* the upper Indus Valley, where the two fighting bulls are depicted is named *Vana* as suggested by the name, '*King of Vana*'.

We now take up Sl. No. 3 of fig. 57 depicting two rhinoceros along with a legend set in between. The legend reads *TAVE*. The same rhinoceros is represented on the left side of the crocodiles in the middle file of serial No. 1 of fig. 57. So it is not difficult for us to guess the name of the region, *i.e.* the middle valley of the Indus as *TAVA* which means strong in the vedic Sanskrit. On the right side of the crocodile in the middle file we do not find any depiction of animal figure. A man seated on a branch of a tree with a tiger beneath it actually belongs to the lower file, being an integral part of popular scene which is usually depicted on several other seals also. By this vacuum we understand either that region was not habitated at all or if habitated was under the control of the region Tava.

Let us proceed to the lower file while trying to understand the seals 4 and 5 of fig. 57. Here we see the depiction of an elephant on the left side and the hero seated on a branch of a tree with a tiger growling at him beneath it. The same scene is depicted on the two seals 4b and 5a along with some details end legends.

We have on seal 4a (Mackay Pl. XC No. 24) a linear geometrical decoration followed by a legend and seated man with a vase in hand worshipping a tree. The legend reads *Inave* meaning the Sun God in vedic Sanskrit who is also known as *Ra* or *Ran* to the ancient Egyptians. Seal 4b depicts a vase which is actually an Indus sign U=*Na* with a lid /\\=*Ra*, the whole reading as *Rana* followed by two scenes, a man seated on a branch of tree with a tiger beneath it, and two fighting heroes being intervened by a god. We are interested in the first scene as it is represented on seal 1 of fig. 57 in the lower file. Because of this link with the seal 1 of fig. 57 the area *i.e.* the lower valley of the Indus as represented by the elephant and seated man with the tiger beneath him in the lower file, may be '*Rana*' which also means strong or fort, in the vedic Language. The second scene may suggest the fight between Asuras and Aryans for the supremacy over the land of the Indus. The god who is worshipped by both is sometimes shown on other seals as *Varuna*, *Makhanāsana*, *Isāna*, *Rana* and *Inave*. The linear geometric design on 4a is nothing but the ideographic representation of a fortified city with four gates the name of which is given as *Inave*, and which also is one of the names of the Sun God. It is pertinent to note here that often the names of cities, lands, rivers, kings, and common people derive from the names of gods in the Indus Valley as well as other ancient civilizations. The man offering vase to the tree is not a simple tree but a god standing beneath the tree in an arch as is usually represented on other seals. This worshipping of god under the trees is a very old Aryan custom.

The seal, Sl. 5 of fig. 57 (Mackay Pl. LXXXII No. 1) gives us some other story of the region. On serial No. 5a is depicted a *swastika* in the centre which stands for Sun God and the land of the Sun worshippers the name of which is shown as *Rana* in seal 4b, as the lower Indus Valley and Gujarat regions symbolically represented by the elephant and the hero seated on a branch of a tree with a tiger beneath it. Seal 5b depicts an U shapped tree and in front of it were compelled to prostrate some two prisoner kings and some booty in the shape of animals whose countries names were given next to them as *Baba*, *Tava* and *Elau* (Elam).

Sl. No. 5c depicts the victorious king of the land *Rana*, most probably, whose name was mentioned on other seals, as king Ishtar, an Aryan by name on the evidence of Avesta, kneeling before his guardian deity and offering to him for the help in defeating the enemy. This entire event had been recorded periodically by engraving on several seals in order to commemorate the event.

In order to confirm the existence of separate regions *Vana*, *Tava* and *Rana* (fig. 3) under the full control of each tyrant, the seal fig. 57 (Marshall Pl. CXVI No. 6) may be taken for study.

The seal depicts four battle standards on one side representing four legions of war. These are from the right, the Indus standard of the Sun God, the Egyptian standard of Path (or god Osiris), the Elamite of the Sumerian standard of bull that stands for the Sun God and the Babylonian standard of the Sun God. On the other side the legend reads Upa Pura, perhaps stands for Harappa. It appears that these 3 regions were constantly engaged in wars against each other, some of them seeking the help of the Egyptians, Babylonians and Elamites as observed from the above seal No. 5 of fig. 1.

In conclusion, I would like to add that the above is only a rough outline map of the Indus Valley and it has been worked out under many serious handicaps and stresses and strains. To get a complete picture of the entire Indus Valley with the pin point accuracy of location of the cities, towns, rivers, tributaries, hills and deserts and boundaries, etc. thc author requires liberal help from the Government as well as the public by way of financial assistance to this project and a word of encouragement and recognition to this great work. Without such assistance the work cannot progress and the unique talent and gift of the decipherer cannot be fully utilized by our great country.

'MAGAN' THE SHIPLAND[1]

The attention of the scholars was engaged for the past half a century by the identification of the three important place—Magan, Meluhha and Dilmun which had been frequently mentioned in the Babylonian and the Assyrian texts, in connection with the trade and commerce. But there was no unanimity on this question. It is the object of this paper to identify Magan with the coastline of the southern Baluchistan, in the light of the new data that have been collected while deciphering some of the signs painted on the vases belonging to the Kulli culture.

Before we identify the place, it is pertinent to go through the observations made by some scholars on this subject.

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[1] This paper was read at the seminar held by the Andhra Pradesh Historical Congress, Nov. 1980 (Guntur).

"Whether Magan was Egypt, the Sinaitic peninsula, or the Arabian coast of the Persian Gulf is still unsettled. Melukhha so often mentioned with Magan, certainly in later times meant Ethiopia. The name Magan appears to mean "the place to which one goes in ships—Shipland" (Hall, p. 188). In the Sumerian language *Ma* or *Mag* means, ship.

The following paragraphs have been quoted from Geoffrey Bibby's book '*Looking for Dilmun*'.

"The other school of thought would place Makan in Africa, in Sudan or perhaps Ethiopia based on inscriptional evidence—royal inscriptions of Assyrian kings in connection with their campaigns of conquest in Egypt around the years B.C. 700-650, and the inscriptions left no doubt at all that Makan and Meluhha were regions in upper Egypt and further south."

"But it may not be correct. Because the commercial references to Makan and Meluhha ceased by about 1800 B.C. and the Assyrian Kings first mentioned them again over a thousand years later. If Makan and Meluhha had been of legend for a thousand years it was not at all impossible that the Assyrians, who had never had dealings with either country anyway, had been mistaken in locating them in Africa. After all, the Spaniards had called the islands of Carribean the West Indies because they believed they had reached India."

"Ivory and gold, which were the products of Meluhha could come equally well from Africa and India, but the carnelian of Meluhha could only come from Rajputana in India."

"One of the major imports of the Egyptians from their trading expeditions down the Red Sea to the south was frankincense, grown then as now in the Hadramaut in Southern Arabia. Surely, frankincense would have figured in the texts of imports from Dilmun if the ships from Makan and Meluhha had sailed the whole length of the Hadramaut coast" (Bibby, p. 220).

Again there are some more references to the products of these countries in number of lexicon texts from this very period, lists of produce with their country of origin...."In the lists of types of stone, 'diorite'—produce of Makan; in the lists of types of wood 'palm trees'—produce of Dilmun, produce of Makan, produce of Meluhha" (Bibby, pp. 219-220).

"Makan chairs and Meluhha tables or the multicoloured ivory birds of Meluhha" (Bibby, p. 221).

"Gudea had imported diorite from Makan to fashion his numerous statues" (Bibby, p. 219).

Here are given some more references regarding the trade and commerce and to the conquest of these countries by the Babylonian and Assyrian rulers :

"The boast of Sargon of Akkad about 2300 B.C. that he made ships from Meluhha, the ships from Magan, the ships from Dilmun tie up alongside the quay of Agade." (Bibby, p. 219).

"On one of the Omen-tablets (of the 7th cent. B.C.) discovered at Kuyunjik (Nineveh) we read respecting Sharrukin (Sargon of Agade) that 'he traversed the sea of the west and for three years his hand prevailed in the west. He established his undisputed rule, and in the west his statues (he set up); he caused the booty of the sea lands to be brought. Another version substitutes 'sea of the East' (*i.e.* Persian Gulf) for 'sea of the West', and we also read that under certain omens the great king had carried his arms to the Persian Gulf, where the island Dilmun came under his way; he also is said no doubt with truth, to have invaded Elam" (Hall, p. 187).

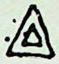
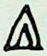
Concerning Naramsin, the grandson of Sharrukin, it is recorded; "Narmsin brought stone from Magan (Eastern Arabia) : a stone vase inscribed by him with the words '*vase from the booty of Magan*', has been discovered, and at Susa has been found a statue with an inscription directly recording the conquest and submission of *Manium or Mannu dannu, King of Magan.* He calls himself king of the four quarters of the world". (Hall, p. 187).

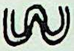
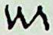
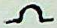
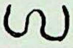
This last reference has given me the clue to decipher the signs painted on the Kulli vases above the bull and cow with the sacred standard in fornt (Piggot, p. 103).

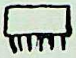
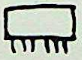
Now, I would like to deal with the important scene painted with the signs reading Danna Manna, but these actually were meant for Mannu Dannu as quoted above. Dannu in semitic means strong or powerful. Mannu is the name of the king, which means sun in Sumerian and son of the Sun in Sanskrit. The name is written from right to left, *i.e.* from the head towards the tail of the animal, which is also commonly noticed in the Indus seals. Since this shows the early efforts of writing, no vowels were given. Perhaps, it is also due to the borrowing of the phonetic values from the Egyptian hieroglyphics where vowels are invariably omitted in writing but supplemented while pronouncing. From the stray occurrences of these signs it would seem that writing was not popular among the Kulli people.

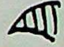
Similar stray use of signs also occur as potters' marks from the other sites of the Northern Baluchistan. Fairservis gives some of these signs and tries to compare them with the Indus signs. He even made it clear that Indus writing system might have evolved from such initial stages of potters' marks (Fairservis, p. 281). But some scholars took these signs *i.e.* the comb-patterns, sigma forms triangles and dotted circles as purely decorative motifs without having any phonetic values. The following meaningful reading proves that they are wrong.

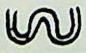
Let us examine the signs painted above the bull on the Kulli vase (fig. 72).

The first sign  is Egyptian hieroglyph for a cake with the phonetic value 'd'  (Gardiner, p. 533).

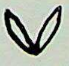
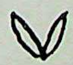
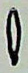
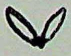
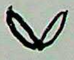
The second sign  which is repeated as third sign is also Egyptian hieroglyph for a ripple of water   with the phonetic value '*N*' (Gradiner, p. 490). This sign  also occur at Harappa (Seal V. 37).

The fifth sign  with its repetition as sixth sign is Egyptian hieroglyph  which for unknown reason has the phonetic value '*Mn*' (Gardiner, p. 534).

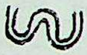
In between the 3rd and 5th signs there is some illegible fourth sign  the meaning of which is not conceivable. It is, perhaps, a punctuation mark separating the two words Dannu and Mannu.

The seventh, eighth, ninth and tenth signs are the repetitions of the second sign  .

Both on the bull and cow, some signs

were painted which probably, served as identification marks or numerals as 20 and 21 according to the Egyptian hieroglyphic writing system. In this connection it may be stated that there was a reference in the Rigveda that king Savarni had presented one thousand *Astakarni* cows with mark of numeral eight on the ears to the Rishi Nabhanedista who praised the king for this noble deed. I have deciphered several Indus seals with the name king Savarna. Even Indus weights and measures have similar numeral signs. Indus seals also show six rayed star within the circle on the body of the animal.

The third sign has the pronunciation 'Mana' in itself, but the scribe painted another sign  with the phonetic value '*Na*' to fix the meaning as well as pronunciation '*Mana*'. This method, known as 'Phonetic Complement' and phonetic writing was borrowed from the Egyptian hieroglyphic writing system (Gardiner). This method is also adopted on Indus seals occasionly. The scribes used this repetition to serve as decorative motif in filling up the voids. Such instances of several repetitions of the same sign occur in Indus script also—vide, fig. 72 illustration, Mackay No. 322, which reads Mana 'Pavana' (as monogram). It appears all Indus seals with Zebu bull bear the names of persons belonging to Magan.

The whole reads now as Danna Manna. Since it has no meaning we have to pronounce it to the nearest meaningful words as 'Dannu Mannu', which was mentioned by Naramsin, as quoted above. We have also to bear it in mind that, since it was the first effort of writing, the scribes did not use the elaborate syllabary giving the vowels also.

The only way to check the correctness of my decipherment, as well as the correctness of the identification of the Kulli sites with Magan is to search out the relevent vase mentioned by Naramsin, which, I believe, is still in the Luvre Museum, Paris, in order to see whether it is of Kulli make.

The adoption of the Egyptian hieroglyphics indicates that the Kulli people had maintained close relationship either by trade contacts or by racial similarity with the Egyptians or Ethiopians.

Further evidence of this contact is provided with the example of a bronze statuette from Mohenjodaro of a dancing girl, who, showing Ethiopian features, is perhaps a slave girl from Magan.

Moreover, the region where Kulli culture sites are located is known to have been occupied in ancient times, by a race known to ancient Persians as Maka, according to Herodotus, by Ethiopians and according to the historians of Alexander, by Ichthyophagi (fish-eaters—Rawlinson, iii; p. 105).

In order to justify the claim that the region of Kulli culture is worthy of such identification with Makan or Magan, we may refer to the statements on the significance of Kulli culture, made by some eminent scholars in this field.

After studying the other chalcolithic cultures of Baluchistan, Gordon says, "It is infact only in the case of the Kulli culture that we have any evidence to suggest, that the craft of metallurgy was practised." (Gordon, p. 55).

Dales writes, "If the Harappan seaports were post-Kulli, why then would there have been such formidable defensive establishments? At present it seems that the Kulli people, apparently hostile to the Harappans, are the only raisend'etre for the elaborate Harappan establishments. A new element has, however, recently entered the picture which tends to support the idea that the Kulli people were infact the middlemen in the trade and cultural contacts between the Harappans and Mesopotamia. The discovery of typical Kulli materials on the island of Umm-an Nar (Abu Dhabi) of the Trucial coast in the Persian Gulf and the lack of the Harappan remains that far west suggest that the Kulli people were the carriers of goods between the Persian Gulf and Harappan sea-ports now known to exist as far west as the present Pakistan-Iran border" (Dales, p. 272).

Dales further writes, "The latter vessels (*i.e.* the incised compartmented stone vessels of Kulli culture) have been the object of considerable discussion because of their possible relation to incised gray-ware vessels from south-eastern Iran and similarly decorated grey-stone vessels from Early Dynastic contexts in Mesopotamia. In addition, there may now be included incised pottery vessels from cairn-11 at Umm-an-Nar in the Persian Gulf. Unfortunately, the parallels for these distinctive vessels are not securely dated at the Indus Valley, since they are reported from both the upper and lower levels at Mohenjo-daro". (Dales, p. 273).

Finally, I have read some Indus seals and sealings bearing the inscription 'Make', suggesting Magan. Even my key seal '*Makhanasana*' would mean the destroyer of Makha *i.e.* Magan which is the only rival to the Indus people.

A PROTO-INDIAN STATUE[1]

Father Heras acquired this small statue through his friend Mr. K.E. Kotwal who purchased this for one Rupee in a bazar of Bombay. The statue looks like a seated Sumerian figure with both hands kept on the knees as if he or she were bowing before some high dignitary, *i.e.* king of God.

The statue bears some engraved inscriptions in the Indus Script in four places *i.e.*, (1) on the front side in between the knees (2) on the back side, (3) on the right side and (4) on left side of the icon. Father Heras gave his reading supposing it to be the proto-Dravidian language. I gave below my reading of the inscriptions.

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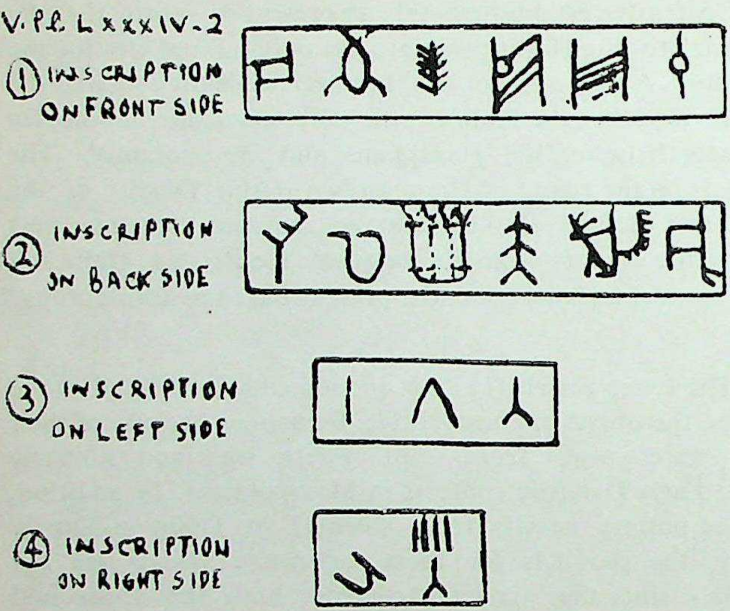
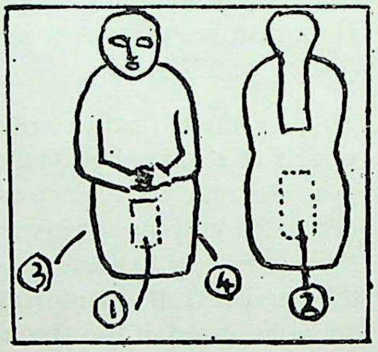
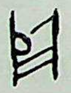
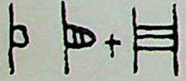
[1] Rev. Fr. H. Heras, S.J., A Proto Indian Icon, *Journal of Bihar and Orissa Research Soeiety*, Vol. XXIII, 1937, pp. 472-490.

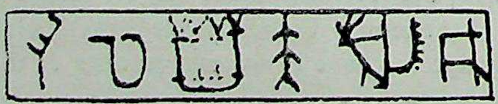
Inscriptions on the Icon

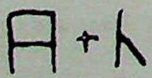

V. Pl. LXXXIV-2
① INSCRIPTION ON FRONT SIDE
② INSCRIPTION ON BACK SIDE
③ INSCRIPTION ON LEFT SIDE
④ INSCRIPTION ON RIGHT SIDE

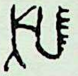
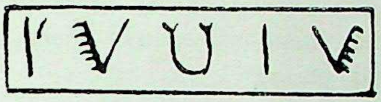
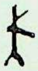
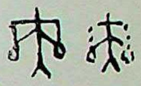


In this inscription all the signs are similar to those which occur at Mohenjodoro etc., except the third sign  which is a composite sign made up of  with phonetic value. Bara or Bra. The fifth sign which is in a topsy turvy position though incomplete, closely resembles Mohenjodaro fish sign with phonetic value *SA*. The whole inscription reads : ideogram for king or God *BA BARA*. ideogram for country *VANA* ? *SA HA* (King Babra saha).

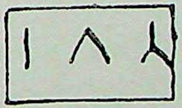
Inscription on the back side of the statue



In the second inscription the first three signs are a little modified forms of Mohenjodoro signs, while the last three are similar to the Mohenjodaro signs. The first is composite of  with the phonetic values *TA VA*. The second sign

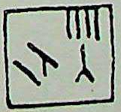
man holding a bird  which resembles closely Mohenjodaro signs in seal No. M. 531  . The phonetic value for it, is *SA* and the man  serves as determinative for man offering sacrifice. The third sign is incomplete and when reconstructed closely resembles the Mohenjodaro signs  with the phonetic value *PA VA* denoting the country, or King or God. The whole reads now *TAVA SARANAM* with the third sign indicating country *PAVA* as monogram or King as an Ideogram.

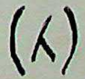
Inscription on the left side of the statue



In the third inscription all the signs are similar to Mohenjodaro signs. The inscription reads *VA RA I* or *VRI*. But this appears to be incomplete name which is completed in the fourth inscription on the right side of the icon.

Inscription on the right side of the statue



In the fourth inscription also all the signs are similar to Mohenjodaro. But the third sign has a different phonetic value as a *POLYPHONY* which rarely occurs in the Indus seals. In Indus signs it has the Phonetic value *YE* or *YA*. But here it has the phonetic value *TA*, on the ground, it clearly resembles the Sumerian sign, with the syllabic value 'TAR'  meaning knife or to cut. The whole inscription now reads *KA VA TI*, the meaning of which is completed only when we add before it the third inscription. The whole now reads *VRIKAVATI*. A name of a woman.

The statue appears to be that of a female figure. The back side shows well dressed long hair reaching to the hips. The reading of the inscription *VRIKAVATI* gives some clue as to the person who caused the inscription to be engraved. Perhaps she is a slave girl of Sun God *BABRA*. Waddell mentions *wricaya* being the title of a maid married by a king *SVANAYA* of the vedic period.

9

Foreign Rulers in the Indus Seals—A Clue to Determine the Chronology of the Indus Civilization[1]

INTRODUCTION

An effort, therefore, as a sequel to the author's decipherment, is made in this paper to add to our knowledge of the Indus Civilization a few more details dealing with the evidence of the names of foreign rulers in the Indus seals with a bearing on the chronology.

Total Number of Seals and Sealings

We have uptil now 2325 seals and sealings in total. These include seals found in foreign countries and seals kept in foreign museums. Out of this grand total 246 seals were found to be repetitions of the original seals, 210 seals do not bear any inscriptions, 185 seals are found to be fragmentary and illegible with one or two signs that would not give any meaningful reading. After deducting all these seals as detailed above as discards, we have got 1675 seals to be read and interpreted.

Reading of the Seals

It is no exaggeration or vain boasting if it is stated that all the 1675 seals and sealings have been read successfully by the author. Anyone can read these by applying the phonetic values and other methods discussed in this "Indus Script Deciphered".

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1. Paper read at the *International Seminar on Radio-Carbon and Indian Archaeology*—1972, at Tata Institute of Fundamental Research, Bombay.

Grouping of the Seals for Identification of Names

Reading and knowing the names of kings and other persons is one big task and identifying these names with the kings of Indus regions and foreign lands is yet another and greater task. To achieve this it is essential that all names should be analysed into groups on the basis of terminations and titles in the names. In this process of analysis one need not know the readings, but need to be wary about the peculiar groupings of Indus signs in the inscriptions and their constant repetitions (Vide figs. 83 to 108).

TITLES AND TERMINATIONS

Thus it is found that the following titles and terminations have been frequently repeated in the seals. (Vide. figs. 77 to 79). These number nearly 50 in all. These do not sound strange to any one who is acquainted with the Vedic and Puranic literature.

Tests for Identification of Foreign Rulers

The real difficulty arises when the question of distinguishing the names of foreign rulers from the whole lot of names. But this difficulty can be surmounted by carefully applying several tests to each inscription.

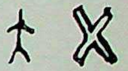
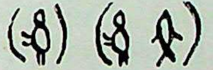
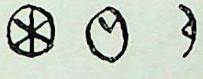
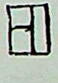
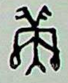
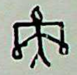
Terminations and Titles in the Weights and Measures and Currency

The first test is to list out the terminations and titles that occurred in the tiny seals which are identified by the author to be the weights and measures and currency. The readings of the inscriptions on these seals tremendously tally with the names of weights and measures and currency enumerated in the Vedic literature (Vide fig. 75). The titles and terminations that occur on the weights and measures and currency have a special significance and function as a touchstone for isolating the names of foreign rulers, merchant-princes, governors, etc., since it is only natural that these foreigners' names will not be represented in any local currency unless they intrude by way of settled conquerors. Thus on this evidence we can safely screen some names and prepare two separate lists as : (1) Titles and terminations that occurred in the weights and measures and currency and (2) of those that do not occur in them (Vide. fig. 77).

Unusual Combination of Indus Signs and Exotic Rare Signs

After screening through this first test some names still persist and perplex us. Do all these names with and without titles and terminations which do not come under the category of weights etc., belong to foreign rulers? Other tests would solve this problem. Another test on which we should bank upon would be to sift the names on the basis of unusual combination of Indus signs and rare signs that accompany the inscriptions. To know them we have to compare these signs with the frequency chart of Indus signs (fig. 76) and their usual combinations. Anything exotic and with rare occurrence will immediately strike the eye and then these are to be separated to be sifted further to isolate only the kings' names from a host of other names, that is foreign ambassadors, merchants and other professionals, governors, ministers, commanders, gods and goddesses and priests etc.

Ideograms Suggesting Kings and Countries Names

The third test is based on recognising certain ideograms that occur along with the inscriptions either in the beginning, middle or end. Some are listed in the fig.7 and 31. These would suggest the name of a person that would be identified with king, God or Goddess. Some ideograms and monograms , would indicate a tribe , the office which a person holds  and a country to which he belongs   . On this score one can again isolate some foreign kings.

Different Animals Depicted in the Seals Suggesting Different Tribes

Another test, the fourth, to which the remaining doubtful names are to be subjected, is to find out the animal represented in each seal. Unicorn being a national animal to the Indus people, is represented predominantly throughout from early to late period, and is present in 630 out of total 1675 seals. A person irrespective of race or tribe having any kind of close dealings with Indus region, unless he be an enemy, has to get his name inscribed in a seal bearing unicorn to suggest his affection and respect for that country. Unicorn occupies as national emblem and mark of sovereignty over Indus region, that even the conquerors whether Aryans, Asuras, Dāsa, Egyptians and Assyrians who occupied the Indus region, started issuing seals with the depiction of unicorn in addition to the seals with their tribal totem or favourite animal. Sometimes a name is found simultaneously in the seals bearing representations of separate animals *i.e.* Unicorn, Zebu, Bison, Rhinoceros, Tiger, Elephant etc. On the available evidence such occurrence of king's name is to be taken as a suggestion that the king was the unquestioned lord of all those tribes indicated by those separate totems. Sometimes a king's name is inscribed on a seal having a composite animal or animals with 3 different heads of bison, goat, unicorn. This would suggest a confederation of tribes under one king. Such occurrences bear testimony to the

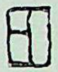
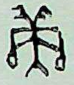
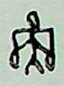
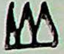
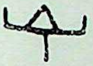
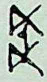
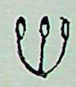
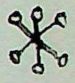
Vedic literature; (Sudas and the confederation of 10 kings), and also from the confederation of cities under Philistine Serens or tyrants. An inquiring mind may doubt the association of totems or animals depicted on the seals with the different tribes foreign as well as indigenous. This query will be satisfactorily replied by way of illustrations (Vide. fig. 73/7) of seals on which the animals, tiger, rhinoceros, bison were depicted. And on one side a human figure is pointing with one hand towards the Pavana monogram and with the other the animals, thereby suggesting that those animals indicate the tribes native to or that domiciled in the Pavana country. In another seal a head or unicorn is over-shadowed by a mysterious object and the inscription reads *Vara Viśana* — a tribe mentioned in Vedic literature. For other totems of Sakas, Asuras, Mitannians, Babylonians, Minoans mentioned in the seals (See Fig. 73/12, 21, 25,26,32).

Frequency of Animals Represented in the Seals

From the following frequency of occurrence of the seals with depiction of different animals may be noticed the popularity of the tribes in the Indus region.

Total Seals 1675 readable and legible after discarding the others.

	Total	*Foreigners*
Seals with unicorn	630	236
Seals with bison	69	28
Seals with zebu bull	49	21
Seals with elephant	35	13
Seals with tiger	24	4
Seals with buffalo	18	8
Seals with rhinoceros	29	12
Seals with crocodile	20	4
Seals with goat	10	3
Seals with human figures	21	—
Seals with composite animals	20	12
Seals without animals	750	83

Of these seals with bison, zebu bull, elephant and buffalo, indicate 50% of foreign rulers' names. This fact is attested by the above processes of screening. Even among the remaining 50% of seals, the names may not indicate indigenous kings since the titles *Pavana, Syona, savana, Varuna, Baba* (*Bhabha*), *raja, saka, ima,* have become common titles among the world civilizations. For instance Egyptian king is known as Susa Pavana, Susa Syona and Damana kings of Gilicia bear the title Syona at the end of their names. Philistine tyrants bear title Seren and almost all governors of ancient lands were known as 'Saka'. Baba, meaning sun was common title in Indus region, Elam, Babylonia and Egypt. In these circumstances, other tests such as ideograms indicating the country,     unusual combination of signs   and extoic signs   would clarify the doubts.

The fifth group

Belongs to seals occurrning in foreign countries, Ur, Telloh, Susa, Bahrain and all indicate the foreign rulers and merchant-princes.

Inscriptions on Copper Tablets

There is another category, the sixth, of seals which are inscribed on copper tablets. Most of these indicate foreign ambassadors, governers and kings.

The seventh Category

Belongs to inscriptions on copper and bronze weapons. These are only three. Of them one indicates a governor of Assyria 'Raba Shake' or 'Rabasu'. The other two are described at length under key to figure V.A.

Lastly the eighth category

Belongs to seals depicting the scenes of conquests to and sacrifices (See fig. 73). These remove any iota of doubt as to the nature of seals and narrates several proud and heroic and also sometimes humiliating circumstances in the history of Indus civilization.

SUMMARY

To sum up the basis for distinguishing the foreign rulers (Vide. fig. V and V.A.).

1. Seals depicting titles and terminations in the weights and measures and currency.
2. Seals with unusual combination of Indus signs.

3. Seals with alien signs, ideograms and determinatives conspicuous by rare occurrence.
4. Seals depicting different animals other than the unicorn.
5. Seals occurring outside the Indus Valley.
6. Inscriptions on copper tablets.
7. Inscriptions occurring on the bronze tools and weapons.
8. Seals depicting scenes of conquests and offering sacrifices.

IDENTIFICATION OF THE NAMES WITH FOREIGN RULERS

Finally we have to tackle the most complicated question of identifying these foreign names, which number 341, with the names of rulers of the ancient world. It is felt that stratigraphy would simplify the problem, for one can arrange and list out all the names into different groups on the basis of Early, Intermediate and Late periods of Indus Civilization as worked out by Marshall, and followed by Mackay, Vats and others till recently. But there again, the author is confronted with many difficulties.

Difficulties in the way of ascertaining Stratigraphic Sequence of the Seals

The first difficulty is that there was lot of jumbling of seals, for example, the name king Damana would appear in all periods which is against the laws of stratification, if it is not due to the existence of several king Damanas at different periods of the Indus Civilization. Otherwise such an occurrence is to be explained as due to the negligence of excavators in maintaining a proper record of finds. Other reasons may be attributed to the disturbance of layers as a result of continuous occupation of the site. Sometimes erosion of late deposits would bring the finds of such deposits into the Early and Intermediate periods.

This is precisely what has happened in several sites at Mohenjodaro. Lastly robbers' pits would cause jumbling up of material. In archaeology one cannot forecast what will turn up the next minute. It may be an utter disappointment. So we have to prepare for anything worse and try to put into order the material from a bundle of confused and jumbled up things. The author is at present trying to do the same and would like to impress on his critics not to come with such trifling points want only to destroy the entire structure that he has been building up. Long lists of foreign rulers have been prepared along with the stratigraphic details and C^{14} dates as far as possible.

Hurdles in finding out the Correct Pronunciation of the Names of Foreign Rulers

With the help of the above information, the names from the Indus seals have been tallied with foreign rulers of the ancient world for the purpose of identification, keeping in view the consonantly harmony acceptable to linguistics while transcribing the names into a different tongue. Again, the terminations in the names peculiar to a language, for instance, the termination '*ash*' in the word '*Suryash*' in Kassite language, have not been taken into account while comparing with the names. On the other hand one should take note of certain sanskritisation or prakritisation of the foreign names. For instance, in Pali prakrit, Alexander would be pronounced as Alika Sundara, Antialkides would become Antalikadasa. Likewise Menander would become Milinda, and so on.

Another hurdle in the way of identifying the names is that, we do not have key to correct pronunciation of the names of Egyptian rulers since the nature of their script is consonantal and the in-between vowels have to be supplied according to their habitual pronunciation which is no more existing. Because of Greek domination in early centuries B.C., the names of the ancient rulers that were listed at that time were influenced by Greek pronunciation. Thus we have to bear in mind all these practical difficulties while arriving at conclusion on the question of identification of names. Out of the total 341 Indus seals mentioning the foreign rulers, a few have been listed and barring a few, all other names cannot be said as finally identified. If everything goes on well, so far there is no hope but disillusionment because of the apathy of the various institutions to encourage the author, the other names of foreigners would see some light, in due course.

It is not out of place to discuss here some important issues concerning the methods of decipherment and evaluation of the different approaches.

When the author first announced the decipherment in March '69 criticism was levelled against the decipherment on the following grounds :

1. The dates arrived at on C^{14} dating and other archaeological methods for the Indus Civilization have been 2300 to 1760 B.C. and the reading of the names of Mana who has been identified with Narmer belonging to c 3400 B.C. and Syoramana identified with Solomon c 950 B.C. conflicts with the above scientific dating.

2. To postulate a duration of nearly 2000 years sounds far-fetched.

3. Aryans entered into India with iron and horse as early as 1100 B.C. On these points the author would like to put forward some interesting arguments, many of which are no doubt, based chiefly on the reading of the seals. On the erroneous C^{14} date bracket, enough has been said in the introduction.

DILMUN

In this connection, the readings of the seal, Marshall No. 129, as Pavana and equating it with Dilmun are worth noting. If that reading is accepted it would compel one to accept the late survival of Indus Civilization till 6th century B.C., since Dilmun was referred to by Sargon II of Assyria in his records mentioning UPERI, king of Dilmun who sent to him gifts. The latest mention of Dilmun may be noted from the records and Nabonidus king of Babylonia in the 6th century B.C., mentioning a governor of Dilmun. Even the name Uperi has its equivalent forms of several names of Indus seals, such as, Ipura king Pipra (Asura), Dupara-Para and like that.

No doubt, identification of Dilmun with Bahrain island has been made by several scholars. But the excavators themselves are not conclusive in their suggestions for this identification. The claim that Bahrain must be Dilmun may be refuted on the ground that it was a small trading station and the trade goods such as wood, ivory and copper were not the original products of the island.

DEDANIM

More over according to the author's reading the names Dadha and Dadhana, which are also shown against Sumerian ideogram for Dilmun (see. Fig. IV. 8 & 10) may indicate the ancient name of Bahrain island. The ancient name Dedanim through which the Assyrians had their trading with other distant countries, admirably suits to Bahrain. In fact this has been equated by Rawlinson. Since there are many common things in the form of weights and measures and Indus seals recovered from Bahrain excavations, it may be surmised that the Bahrain island served as a centre of trading colony to the Panis or Phoenicians, who had wide trade links with the ancient countries and seaports throughout the ancient world. The coffin and cist burials of the Cannaanites (Phoenicians), the cist burials of Bahrain and the Megalithic cist burials throughout southern India along the costal regions with their graffiti bearing black and red pottery would strengthen the belief that they were Phoenicians. To crown all this evidence, the Indus seal bearing Dadhana also bears the name of their God Dagon written as Jagana in the Indus seal. Thus it can be concluded that Dadhana and Pavana (Dilmun of Indus region) were once occupied by Panis. Readings of Indus seals give many names of Panis such as *Pani Nivana, Ipana, Pana, Sapana* etc., and quite interestingly some names come from Lothal.

MELUHA

In this connection it is pertinent to note that Meluha cannot be identified with Indus region because Meluha was being referred as late as 14th cent. B C. in the Amarna letters, as part of Egypt. If the terminal date of 1750 to Indus Civilization is accepted, the occurrence of Meluha in the Amarna letters and the identification of Indus Valley with it will have no meaning.

MAGAN*

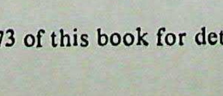
So, still we have Magan to equate with the Indus Valley. Here again we have evidence from the Indus seals mentioning Magan. In one seal a princely apparel which closely resembles to the dress of a Persian Prince is illustrated on one side and on the other side a Sumerian ideogram for Magan is illustrated. In another seal the Indus signs read *Make*—of-course we have got our famous seal Makhanasana which means the destruction of Magas or Makhas the rivals of Dilmun (the Indus people). And this Magan we can locate in the Makran coast known as Maka during Cyrus times. The evidence of destruction by the Indus Valley people can be proved by the spread of Indus Civilization into the borders of Makran Coast.

QUESTION OF DISAPPEARANCE OF INDUS CIVILIZATION

Until the question of disappearance of the Harappans is solved beyond all doubt; it is open for the scholars to speculate plausible theories about the Indus people and the survival of their civilization till it was replaced by other civilizations. It is hardly possible to imagine that there followed a cultural vaccum in that region which nourished such an excellent civilization for hundreds of years. One more clue for cutting this gordian knot may be found in the correct understanding regarding dating of the cultures, Cemetery H, Jhukar, Jhangar, and Painted grey ware, which succeeded the Indus Civilization at the same sites.

IRON, HORSE AND ARYANS

Some scholars are prone to think that the terminal date of Indus Civilization cannot be extended to 9th century B.C. on the ground iron and horse did not appear in the Indus civilization. The absence of these two objects encourages the protoganists of Dravidian authorship of the Indus Civilization to refute any other theory. But these can be easily met with. One may put a counter-question asto the non-occurrence of the remains of rhinoceros, eventhough it is represented in the seals. Yet evidence of terracotta horse was reported from Lothal. One need not wonder if bronze age continued till 9th century B.C. for it depends upon the availability of the new material. To quote a parallel evidence, in Cyprus since bronze was locally available, iron did not replace its use till 6th century B.C., even though its neighbourly Mycenaeans used iron.

Evidence about chariots is available from the readings of the seals. Seal-Harappa  illustrates chariots and charioteers. Some inscriptions on the seals M. 221, M. 373 read Ratta and Radha (the Vedic Word for chariot).

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* See pp. 68-73 of this book for detailed explanation on Magan.

KEY TO FIGURE 77

(Read inscriptions from right to left)

Sr. No. *Transcription*

Words within brackets indicate Titles or Terminations

1. Raja KA VA (VI NA)
2. Raja (I MA)
3. Raja (SA KA)
4. Raja (MA NA)
5. Raja BA BA (MA NA)
6. Raja SYO RA (MA NA)
7. SU SA (SYO NA)
8. Raja SA (RA NA)
9. IVARA NI SO YAYA PA (RA NA or RNA)
10. PU VA YA JA-SĀ TA SA (VAR NA)
11. PU SA (VAR NA)
12. VYA MA-PU SA (VAR NA)
13. HA NI VA (DA MA NA)
14. Raja – SĀ (MA HA)
15. BA DH MA-SU SĀ VA SA (SYO NA)
16. JA PA (SO KA)
17. Monogram – RA (NA) Raja (VA NA)
18. Raja BHA SA (TA PA NA)
19. Raja VA SA SA (PPA NA)
20. Raja DHA MA-SU SĀ (SĀ VA NA)
21. SU SA RNA (JE PU PAVANA)
22. VA PAVA DHA (ideogram totem for BABA) SA (PAVANA)
23. Raja Pavana (Monogram) U (SĀ NA) ideo. for Sun God
24. Raja (VA MA)
25. SYO (DHA MA)
26. PU BHA SA VA RA VA NA (RA DHA)
27. Raja (DA MA)
28. BA BA (ideogram totem for BABA) BA SA VA SA (TA VA KA)
29. (ideo. for temple) RA RA VA TA VA (SA NA)
30. SA VA PU SU TA VA BA BA (YA MA)
31. VA MA – (YA NA)

32. Raja (KA VA NA) ideo. for KAVANA
33. DA TA (YA NA) ideo. for Sun God
34. VA NU PA-SA (BHA NA)
35. DA VA PA-SĀ (RA YYA NA)
36. NA SA RA Ideo. for Vana country. (SA BA KA)
37. TA SO BHA-YA ideo. war god BABA (E NA)
38. BA BO (NA NA)
39. NI SA JA ideo. for war god BABA (BA BA)
40. Raja ideo. for country Vana (PA MA)
41. SA TA VA PA MA (V YA MA)
42. NU SA (RA JA)
43. MA BHA PA—(PI SA NA) or (SA PI NA)
44. Raja—PU (VA R MA)
45. YA SA (VA R KA)
46. VA VA BA BA (DA NE)

KEY TO FIGURE 75

(Read inscriptions from right to left)

Sr. No.	*Transcription*
1.	DA PU NA-(Egyptian gold coin, *Deben*).
2.	YA VEVA ideo. for city-Raja or Deva SĀ VA NA.
3.	YA VEVA ideo. MA NA PA R NA.
4.	Ideo. for city MA SA or SA MA. Raja—I SĀ VA NA.
5.	13. ideo. for country Vana or Tava-TA PU SĀ VA NA.
6.	12. VA PPA NA.
7.	12. SO ideo. for God NA.
8.	SA VI M SA 12—SĀ TA VA MA HE.
9.	12. Raja Mi HA.
10.	13. SA MA HA.
11.	12. ideo. for God RU DA MA NA.
12.	12. VA RU NA.
13.	13. BHA SA SA VA R NE.
14.	ideo. for city DA SA—RA NA.
15.	13. SA TA ideo. for God MĀ NA.

KEY TO FIGURE 73

Sr. No. (1)	*Textual Reference* (2)	*Transcription and Interpretation* (Read inscription on seals from right to left) (3)
1.	Mackay. 420	MA KHA NĀ SA NA—Destroyer of Makha (Magan?)
2.	Vats. 255	On one side an Iranian or Persian merchant prince's apparel is depicted. On the other side a Sumerian sign with the phonetic value *Ma* meaning ship (Mag, Magan?).
3.	Mackay. 357	(Sa or U broken)—PA MA MA VA—God Pavana or Ea subdueing a mythical animal with a body of tiger, is represented.
4.	Marshall. 479 Late. III	MA KE. Indicates Magan.
5.	Marshall. 129	SIM (*or ideo. for Temple*) PA VA PAVANA—Sim—a Sumerian ideogram suggesting different names Dim (or Zim) means to filter, purify. It also suggested the country Dilmun which was known to Sumerians for its purity. It is equated with PAVANA as shown in the monogram.
6.		The inscription of Ur-Nanshe, king of Lagash about 2520 B.C., records that "ships of Dilmun from foreign brought me wood as a tribute." It is the earliest document extant which mentions Dilmun. (From 'Looking for Dilmun' by Bibby, G.).
7.	Mackay. 1 a, b	Monogram PAVANA. A human figure is pointing towards the monogram. The animals bison, rhinoceors and tiger are represented as if these were the totems of the different tribes of the Pavana country.
8.	Mackay. 390	ideo. for Temple—ideogram for storm God-DHA DA DHA-which indicates Dedanim after the name of Adad, the storm god, a Phoeniciam colony in the island of Bahrain.
9.	Mackay. 219	BABA DHA DHA NA (ideo. for BABA (OR-DHA DHA NA-VANA-BABA)=*Vana* means land. So it reads, the land of Dhadhana (Dedanim), the land of VANA the land of BABA.
10.	Vats. 123	*Above*: VA MAMA DA DHA NA—(MAMA—War god-DA DHANA—Storm god. *Below* : Deva JA BA NA. The name of god Jabana (Dagon, the Phoenician god).

(1)	(2)	(3)
11.	Vats. 316	*Above* : A king is represented offering a arm to the god. *Below* : Raja-I SH TA (ideo. for a country) URA-King Ishtar.
12.	Mackay. 522 Intermediate II	On the tree sits an Elamite warrior – Below a tiger looks at him. *Inscription* : Ideo. for a country – YA NA R SI. A Rsi or seer belonging to the Country *Yana*. He may be identified with the war god of Thinis (near Abydos in Egypt), *Anhur* or *Onouris*. But he looks like an Elamite warrior. The reading Yana compels one to identify with SUSIANA (ELAM).
13.	Marshall. 355	Depiction of the scene as above. Inscription reads MA RU NA and ideo. for Country Vana.
14.	Marshall. 353	Depiction of the scene as in No. 12 above.
15.	Mackay Chanhudaro. L 1-18	The hero as seen on the tree in No. 13, surrenders to the tiger, a symbol of war god Makhanasana. *Inscription* : IVA ideo. CROSS suggesting prosperity-OR GOD. Another ideo. a man carrying the loads, supported by a Yoke stands for the unity of two lands as repesented by two loads and a Yoke. It also reads PAVA as a monogram.
16.	Kalibangan. *I.A.R.* 62-63	Depiction of the scene as in No. 12 above. *Inscription* : reads TA VA SA OR BABA SA Ideo. – man carrying the load. It means a person belonging to the land *Pava*.
17.	Kalibangan. *I.A.R.* 63-64	The war hero who is usually repesented on the tree, subdues the sphinx – Makhanasana with the body of tiger – and takes him as prisoner. This reminds one of the historical event of the conquest of Ur and the carrying away of its king Ibisin the last ruler of the Third Dynasty of Ur by the Elamites. *Inscription* reads TA. Below, the sceptre of the country Vana is shown thus completing the reading as TAVA. The scene also suggests that the war hero this time is an Elamite and that Vana is sympathiser or friend of Ur.
18.	Mackay. 347	Sphinx – Makhanasana with the body of a tiger. *Above* : Inscription reads U RA EE (Ur Ea). This scene confirms the recorded event that Elamites took Ur Ea or one of his successors (Ibisin) as prisoner, as depicted in No. 17 above.

(1)	(2)	(3)
19.		Deleted.
20.	Mackay. Pl LXXX II 1 a, b, c.	*Above* : Scene depicts war hero-tiger-swastika, and elephant. *Middle* : Depicts BOOTY of the War—in the form of Prisoners and Cattle. Inscription reads E LO TAVA BA BA The countries, ELAM TAVA and BABA. *Below* : a scene—king is shown offering a ram and cock to god Makhanasana.
21.	... ...	*Above* : Inscription reads I NA VE (Sun God) (Ravana?) *Below* : A scene depicts a hero seated on a tree, a tiger and a god (Makanasana) intervening two fighting warriors.
22.	Mackay. 75	*Inscription* : BA BA SA KA (Ruler of Babylonia). *Scene* : A hero subdueing two tigers.
23.	Marshall. 86	*Inscription* : RA VA NA PU BHA NA monogram for country PAVA). *Scene* : Hero subdueing two tigers as in No. 22 above.
24.	Vats. 304	*Above* : A human figure is shown in a topsy turvy pose and a tortoise like creature is shown sucking his life out. In Egyptian hieroglyphs a man in topsy turvy pose indicates a defeat or death. *Inscription* : RA VA NA DA MA *i.e.* Annhilator of Ravana. Next follows an monogram for Pava country and then the two fighting tigers with the absence of the central hero who subduced them once, suggesting a fine sense of humour and wit in the scribe. *Below* : Inscription and monogram—same as above. A hero is shown with a sword in one hand and shield in the other. Infront, a fallen hero is shown with both hands holding up. He looks as if he were the war god of Yana (SUSIANA OR ELAM).
25.	Marshall. 5	*Above* : Four legions of war are shown with different totems or banners entering a city. Depiction of similar scene may be noted from Palermo palette belonging Egypt. This suggests a victory over Indus city. *Below* : Inscription, U PA-PU RA with an ideo. for Storm God.

(1)	(2)	(3)
26.	Marshall. 10	*Scene* : A king bearing the totem rhinoceros is shown attacking a city or citadel of the ruler who is indicated by the depiction of the totems, cock and fish sign—'SaVa' a tribe.
27.	... ...	Deleted.
28.	Vats. 87	*Inscription* : TA (ideo. cock and fish sign in an enclosure SAVA) U PA NA or TAVA PANA belonging to tribe SAVA, the name Upana suggest a phoenician or Pani. If it is TAVA PANA. It means strong Pana.
29.	Marshall. 376	*Above* : Inscription VASA NA *Below* : Unicorn is shown stampeding an elephant. It suggests superiority over the tribe having the elephant as totem.
30.	Mackay. 11	*Above* : Warrior subdueing a bison with a lance in one hand and a shield in the other. *Below* : Inscription-SA PU KAVA NA. OR KAVA SĀ PUNA which means Tyrand of the country SAPUNA
31.		Obverse : A warrior with a shield—Reverse—inscription-PUPPA, YAMA PAPANA.
32.		VASA, NANA-MA VARA-IVA—Scene, Bull stampeding a hero.

KEY TO FIGURE 74

Sl. No.	*Textual Reference*	*Stratigraphic position*	*Transcription* Read inscription from Right to left	*Compared with Foreign Rulers*
(1)	(2)	(3)	(4)	(5)
				Egypt
1.	Mackay. 671	early	MA NA.	NARMER (Menes') 3400 B.C.
1a.	Kalibangan.	—	Raja MA NA.	-do-
2.	Mackay. 204	late. Ib.	PU PU E	PE PI-IIn 2190.
2a.	—	—	PU PU E SYO NA	-do-
3.	Mackay. 631	int. III	Raja KA KA NA.	—

(1)	(2)	(3)	(4)	(5)
4.	Marshall. 363	—	Raja PU SA KA RAM.	SHEPSESKARA-V Dyn.
5.	—	—	TA VA SA KA RA RA	-do-
6.	Vats. 319	—	Raja-NA VA TA (Vasa ideo.)	NUBTI—Hyksos ruler.
7.	Marshall. 140	late. II.	Raja NI RA MA NA	NHIMAN—Hyksos king 1700.
8.	—	—	DA NNU SU SA VA RU NA	SEUSERENA—Hyksos king.
9.	Mackay. 323	int. I.	Raja or Rani VA RA (JA) YA SA	
10.	Mackay. 573	int. II.	TA VA-MA RU NA	MARUN PTAH 1224.
10a.	Marshall. 355	late IA.	MA RU NA ideo. for country Vana.	-do-
11.	Kalibangan & Mackay. 378	int I.	Pu SU SYO NA DA MA NA	PSUSENNES I 1054—
12.	Lothal & Vats. 679	late. I.A.	SO MA NA	SA-AMEN—1000—
13.	Mackay. 193	late. III.	SA-SĀ SĀ KA ideo. for country Vana.	SHESHONQ I (SHISHAK) 950.
13a.	Mackay. 523	int. II.	Raja SU SA KA	-do-
13b.	Mackay. 532	int. II.	TA VA VA—SU SA KA	-do-
14.	Mackay 147	late. II.	Raja PA MA ideo. for country Vana.	PAMI—772.
15.	Marshall. 329		VA SĀ NĀ—K TSA MA Raja.	KASHTA—751.
16.	Mackay. 169	late. III.	NA SA RA—SA BA KA ideo. for the country Vana.	SABAKA—716.
17.	Vats. 132	late. Ia.	RA NA DA MA NA	RUD—AMEN. 748.
18.	Marshall. 429	late. III.	RA JA BHA YA TA WA NI DA MA NA	TANWETAMANI 664.

(1)	(2)	(3)	(4)	(5)
			Southern Mesopotamia	
			Dynasty of Agade	
19.	pre-Akkadian	—	Raja SA RA VA NA	SARUKINA or SARGON 2242.
19a.	Marshall. 108	—	Raja Raja SA RVANA	-do-
20.	Lothal.	—	Raja ideo. God. RĀ MA.	RIMUS. 2185.
20a.	Vats. 85	—	Raja RU MA	-do-
21.	Marshall. 555	early.	Ideo. protector or Storm God MA NA SU TSA NU BHA NA.	MANISTUSO – 2175.
22.	Marshall. 180	late. I.	Raja Raja NA RA MA	NARAMSIN∸2159.
22a.	—	—	Raja NI RA M-A NA	-do-
23a.	Mackay. 684	early.	Raja I MMA ideo. for country Vana.	IMI 2095.
			Second Dynasty of Ur.	
24.	Mackay. 63	int. III.	Raja – KA KA NA	KAKU – 2220
			Third Dynastry of Ur.	
25.	Mackay. 347	int. I.	URA-EE	UR EA (UR-NAMMU) 2044
25a.	Marshall. 110	int. I.	Raja BHA BHE SA Raja EE	UR BABA UR EA 2044
26.	Mackay. 694	early.	Raja – SU SĀ NA.	SU-SIN-1969.
			Fourth Dyn. of Uruk.	
27.	Mackay. 395	int. I.	I VA SYO SĀ ideo. God. U RA.	UR NGIN. 2058

(1)	(2)	(3)	(4)	(5)
			Dyn. of Guti.	
28.	Mackay. 667	early.	I S-A RA Raja VA SA.	
29.	Lothal. 61-62	—	Raja I YA.	EA-MUKIN-SUMI-2008.
30.	Mackay. 581	int. III.	BA BA-I YA-RA (JA) I NA.	
			Dyn. of Larsa	
31.	Marshall. 16	—	BA BA NU SU VRA IA ideo. for ruler.	
32.	Kalibangan. 63-64.	—	BA BA (ideo.) PA VA RANA	
32a.	Mackay. 445	int. II.	Raja RI VA or God RĀNA RIVA	
33.	Kalibangan. 63-64.		RA Raja Raja MA SA NA ideo. for country Vana.	RIMSIN 1753
			Dyn. of Isin.	
34.	Marshall. 318		Raja I RA NA	ISBI IRRA 1949
35.	Vats. 251	late. III.	ISHTA URA	LIBIT ISTAR 1864
36.	Mackay. 651	early.	PA MA PA VA JA Raja.	
37.	Marshall. 539	—	DA MA RA BA BA	DAMI QILISU 1745
			First Dyn. of Babylon.	
38.	Mackay. 617	int. III.	Ideo. lotus bud. (PA) Ra(ja) SA TA BA BAM	SUMU-ABUM 1826
39.	Mackay. 666	early	Ideo. for protector MA ENA	

(1)	(2)	(3)	(4)	(5)
			Dyn. of Kassites	
40.	Mackay. 138	late. II.	PU BHA SA ideo. for Vara VA NA RA THA	ABIRATTAS 1614
40 a.	Marshall. 221	—	Raja RA THA	-do-
41.	Marshall. 362	—	Raja PU SA KA RAM.	
42.	Marshall. 142	—	Ideo. for Hero TA VA PU SA RYYA NA	
42a.	Marshall. 342	—	BA BA NĀ SA BA RU NA	BURNA BURIASH-III 1429
43.	Vats. 88	—	Raja SU RYA NA	SAGARAKTI SURIAS 1249.
44.	Mackay. 34	late. I.	VA SA SU VA KA	MELI SIPAK—1191.
45.	Marshall. 253	—	BA BA SU NI DI NNA BA BA VA NA	ADAD SUMMIDDI-NNA 1227.
45a.	Mackay. 54	late Ib.	Raja VA SA SU DI NNA	ZABABA SUMIDDI-NNA 1162.
46.	Mackay. 12	—	U SO SU KA SA NA	SIRIQTU-SUQA MUNA 985.
47.	Mackay. 524	int. II.	KA SA—TA VA KA	KASSU-NADIN-AHHA 1007.
48.	—	—	I SU KA	NABU-SUM-ISKUN 746.
49.	Mackay. 101	late. II.	Raja NU VA	NABU-NASIR 746.
			Nothern Mesopotamia *Ekallate*	
50.	Vats. 123	—	Raja or Deva JA BA NA—VA ideo. Teusal DA DHA NA	ISME-DAGAN—1743
				Assyria
51.	Marshall. 32	int.	KA KA YA SA KA	KIKIA—early ruler of Assur.

(1)	(2)	(3)	(4)	(5)
52.	Vats. 316	let I.	I SHTA ideo. for country Tava U RA	IPQI-ISHTAR-1687.
53.	Mackay. 643	int. III.	BA NĀ SU RA NA	BELBANI 1686
53a.	Vats. 73	late. III.	Raja TA SA RA ideo. for country Pava.	LU TAR-SIN 1647
53b.	Marshall. 67	—	THA SA (Raja) RI	-do-
54.	Marshall. 183	—	Raja NI VA NA	SU NINUA-1601
55.	Mackay. 620	int. III	NU (RAJA) VI	NURILI 1470.
56.	Vats. 233	—	I NA KA	ASSUR NADINAHHI. 1456
57.	—	—	DA NNU SU SĀ VA RU NA.	ASSURRIMNISESU. 1407
58.	Mackay. 601	int. III	BA (Raja) BA I RA VA KA.	IREBA. ADAD-I 1389.
59.	Mackay. 442	int. II.	Raja NA TA PI	ASURNADINAPLI 1205
60.	Marshall. 160	late. III	Raja NI NNA	NINURTA-TAKULTI-ASSUR 1178
61.	—	—	NA NA SA RA NA	Title of MARDUK-ASARU-ALIM-NUNNA. NINURTA-TIKULTI-ASSUR 1178.
62.	Mackay. c.	—	Raja RA VA Ā NA	ASSURRABI-1012.
63.	Vats. No. 5	—	RA BA SU (ideo.) excellent (VARA)	SENHER IB-704. or his governor RAB SHAKE.
				Syria
64.	Mackay. 238	late. III.	TA (NA)-SU SA RNA	SUTTARNA II. 1409. (MITANNI)
64a.	—	—	SU SA RNA JE PU PAVANA (ideo.)	-do-
65.	Marshall. 221	—	Raja. RATHA	TUSRATTA. 1373. (HURRITE.)

(1)	(2)	(3)	(4)	(5)
				Asia Minor
66.	—	–	SYO NA SU RA NA	SU NA SSURRA 1400 (Kizwatana).
66. a.	Mackay. 455	int. II	SU RA Raja VA SA VA SA NA	-do-
67.	Mackay. 107	late II	TA SO BHA-YA-ideo. governor ENA	ARHI-TESUB-1200 (Hittite)
68.	—	—	DA TA SYO NA Pavana Monogram	SHUYYAR DATA-1350 (Iranian prince)
69.	Mackay. 310	—	DA TA YA ideo. god NA	YAS DATA-1315 (Iranian prince)
				Palestine
70.	Marshall. 438	late I.A.	Raja SYO RA MA NA	SOLOMON 971
71.	Mackay. 7	—	NI RA NA Raja. KA VA RA YA NA (ideo. god)	
72.	Mackay. 38	late I.B.	Raja YA KE I VA	
				Iran (Susa)
73.	Mackay. 689	early	Raja STA MA NA KHA TA RA	KUDUR NANKHUNDI
74.	Mackay. 24	—	BA BA (ideo. Totem)-BA SA VA SA TA VA KA	BASHA-SUSHINAK
75.	Mackay. 651	early	PA MA PAVA JA Raja.	
76.	Mackay. 631	int. III	Raja KA KA NA	KUKNASIR 1570
77.	Vats. 72	—	VA TRA SU BHA NA	UNTA SHUBAN 1236
78.	Mackay. 86	late II	RA VA NA PU BHA NA ideo. for country Tava or Vana	HUBANNUGS 743
79.	Vats. 701	—	PU MA BA BA	UMMA NIGAS 717
80.	Mackay. 74	late I	Raja or Deva I MMA NA	HUBAN-IMMENA 692
81.	Mackay. 373	int. I	DA HA-YA SA KA ideo. for country Tava or Vana	ASTYAGES (Ajadahak?)
82.	Mackay. 471	int. II	I STA BHA ideo. for country Tava Vana	VISHTASPA
83.	Mackay. Pl. XCIII-3 copper tablet	—	PU PPA VA MA TA PA NA	ARTA TAPAS a Median prince
84.	Vats. 253.	int. I	Raja SA PPA VA NA	HARPAGUS

KEY TO FIGURE 75 (NOS. 1 TO 10)

Sr. No. 1 and 1a : Bronze Blade – axe from Chanhudaro

(Mackay, Pl. LXXIV – 1 and 1a)

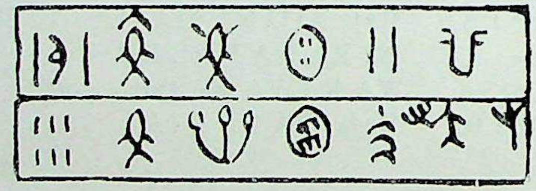
This was found, along with other metal objects in a large pottery pan, buried probably for safety, below the base of a door jamb of a middle entrance to the courtyard 297, belonging to period II (early) of mound II. A steatite seal (fig. 75 No. 10) was also recovered from the surface of the floor of the court.

Both faces of the axe (1 to 1a) contain inscriptions.

TRANSCRIPTION

1. (a) Original Inscription Reads from Right to Left.

VARA SU SA PA VA NA.



1. TAVA SA TA PE 31YA MA.

Alternative Reading : TAVA SA HET SP 31YA MA.

TRANSLATION

1. (a) Excellent (VARA) King of (Pavana) Susa (SUSA).

1. Lord of Two lands (TAVA-YAMA) SATEP'EN'RA (SATAPE) 31 years.

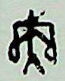
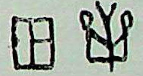
Alternative Reading : Lord of Two countries (TAVASA YAMA) Regnal Year (HET SP) 31 years.

Interpretation

SUSA was a united land of *Susiana* (Elam) and *Sakadvipa* (Indus region—on the basis of a seal Mc. 393 bearing the inscription *Sakadviparaja*). The unity was suggested by the combination of the first syllables from both lands (SU – SA). Early Elamite rulers were known to Sumerians as '*Patesi' of Susa* or '*Sakka Nakku*' of Susa, both meaning governor of Susa. The similarity of the Proto-Elamitic Script to the Indus Script strengthens this belief that once these two countries were united under the name *SUSA*. Also the silence of Babylonian records as to the names of Elamite rulers during the period 1600-1200 B.C. would seem to suggest that Elam alongwith Sakadvipa (Indus region) might have been over-powered by some foreign power who were most probably the Egyptians.

The title SE SE (an inversion of the syllable for SUSA by the scribes either by mishearing or when adapting it to their native tongue) as one of the titles of Ramses II, has been noted by Petrie. (1896, p. 258).

This stimulates one to identify Susa Pavana with Ramses II. Further, the depiction of an Elamite war god or hero Tanarisi *vis-a-vis* to the tiger, a symbol of war god, Makhanāsana of the Indus Valley on a seal bearing an inscription reading *Maruna* (*Marun Ptah*) and an ideogram with a suggestion for the united land Tava seems again to support the above identification. This is further attested by the archaeological evidence. For example, there is close resemblance between the Coolie Quarters in Harappa and Slaves' Quarters in Tell-el Amarna, the 14th century city in Egypt.

To come to the interpretation of the inscription on No. 1. The Egyptian word '*Tava*'[1] meaning 'two countries', originally meant the Upper and Lower Egypt. But the following account would suggest a different source for that word. Surely it might have been derived from the names of the two countries, *Tana* (Elam—on the evidence of the reading '*Tanarisi*' inscribed on a seal as mentioned earlier) and *Vana* (Indus region—also on the reading of the inscription on the seal Mc. 14) which having been conquered by the Egyptians, were united under their Yoke  . The unity was suggested by putting together the two first syllables from the names of the countries Tana and Vana, as TAVA which was suggested by the ideograms  . One need not wonder in getting so many names as Susa, Tava, etc., for the same region, if one observes such parallels in ancient Babylonia which was also differently called '*Karduniyash*' by the Kassites.

Reading of '*Satepe*' provokes us to think about the real name of a person which we are just trying to identify with Ramses II. The complete title, which includes (1) The Horus name (2) The Nebty name (3) The Golden Horus name (4) The Prenomen and (5) The Nomen, of Ramses on his accession to the throne, is :

USER 'MAAT' RA SOTEP 'EN' RA RA 'MESSU' 'MERY' AMEN.

It was probably vocalised (Hall, H.R. 1924, p. 316) :

Uasi (r)—ma—Ra—Satepu—n—Re—Re—Mases Ma (r) i—Amana.

The Cuneiform version of the Hittite pronunciation is :

Uashmuariya—Satepuariya Riyamasesa mai Amana.

Semites called him "*User—ma—Ra*" or "*Uashmuariya*"

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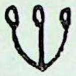
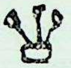
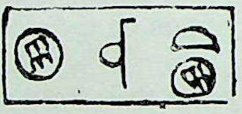
[1] TAVA is deciphered recently by me as Mohenjodaro, region (Lower Indus Valley).

The phonetic value 'Ta' for the sign  has been fixed on the basis of principle of acrophony having noted a resemblance to the  Egyptian hieroglyph that stands for a clump of Papyrus with the phonetic value '*he*' (Gardiner, 1957; Petrie, 1916, p. 5) for its archaic form and having translated into Sanskrit the name of its nearest Indian equivalent Palm tree (*Tala*). Its consistency to be sure whether it gives us a meaningful reading in other seals has been checked.

Thus the reading '*Satepe Yama*' can be equated with one of the titles of Ramses '*Satepuriya—Yama*' as we have found in the Hittite Version, or with '*SOTEP' EN' RA*' of Egyptian version.

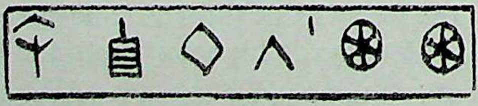
But this reading may be disputed if one observes that the sign has its equivalent in Egyptian hieroglyph with the phonetic value *Sp* and with the determinative value in combination with other signs  for '*het Sp*' (regnal year). (Gardiner, 1957, p. 479).

Since the entire inscription was written in the Indus Script one may doubt the validity of this reading. But the author thinks that without minimising the significance to the King's name the scribe might have intended it as a pun.

Fig. 75. No. 2 : Now, let us proceed to another inscription inscribed on the same type of bronze blade-axe which was recovered from Mohenjodaro.

TRANSCRIPTION

MU JA RA RA' RA RA



TRANSLATION

Majarra (Egypt) Raja (King) Raja (King)

The inscription is incomplete since the reading leaves a blank, as we notice in the following form :

"King of Egypt. King of..........."

This blank was filld by the repetition of the inscription also along with some thing more, in seal Mc. 119 (fig. V A No. 4) which was recovered from late II phase in

Mohenjodaro. Here the reading is completed by the addition of (King of Egypt) King of *Tawara* (Lord of Two Lands) which has been met with in the first Bronze Age we have studied above. Such a representation of the titles are not uncommon in the Indus Valley. For, in seal M. 110, it is inscribed '*Ur Bhabesa Ur Ea*' (King Bhabesa King Ea).

Regarding 'Mujarra', we have evidence for identifying it with the name '*Muzri*'[1] which being an ancient name for Egypt, was mentioned in the records of Sargon II of Assyria, after his victory over the commander-in-chief' ***Sibe the Tartan of Muzri*** !

Who was this king of Egypt and king of two lands with his regnal year 76 ? He was no other than Ramses II, since in the entire history of Egypt only two rulers had ruled for such a long period. The other was Pepi II with a reign of 90 years, of the Old Kingdom.

Finally, concerning the numerical signs indicating a total of 76 years in this inscription and 31 years in the first inscription, it is to be clarified whether these years suggest a *het sp* festival celebrated at every interval of 30 years on the shift of '*Sothis Rising*', or simple regnal years of a king. In the first inscription, the years 31 refer to a *het sp* festival which actually occurred in his thirtieth year according to the calculations. By the same calculation the 2nd *Het Sp* should have occured in his sixty-first year. But in the second inscription 76 years were inscribed instead of 61 years. It is evident from the records that there were many repetitions of *het sp* festivals during his reign though actually only two, one which occurred in his 30th and the other in his 60th bore astronomical significance. In order to exhibit his greatness that he ruled for such long period, he might have got the regnal year 76 inscribed on the axe.

Thus the decipherment of the two inscriptions on the two bronze blade-axes signifies a turning point in the history of Indian as well as world archaeology, by throwing fresh light on the most ancient East, and by ushering in a new era of the study of archaeology and history for understanding the past in true perspective.

Fig. 75 No. 10 : Mackay seal No. LII. 23, which was found in the same courtyard 297 along with the bronze axes, but belonged to a late date. It reads *Savi Pama*=commander Pama (the Egyptian King) or Strong Pama.

Fig. 75 No. 3 : Inscription on a leaf shaped knife. It reads 'RABASU'. 'RABA' is suggested by the ideogram for governor.

Fig. 75 No. 9 : Seal from Bahrain island—inscribed in Indus Script. It reads Dani with an ideogram suggesting a country. It is identified by the author with *Dedanim* the Phoenician trading station which has been mistakenly identified with Dilmun by some scholars.

Fig. 75 Nos. 7 and 8 : Tavasa Upana No. (8) Raja Ratha Sarana.

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[1] Rawlinsion, G. *Ancient Monarchies*, Vol. II, p. 107.
"Muzr is north-western Kurdistan, especially the district about Rowandiz and Amdiyeh. Bit-Sargina (Khorsabad) is always said to be "at the foot of the mountains of Muzr". The Muzri must have traded with India, probably by the line of the Caspian and the Oxus river".

10

Chronology of the Indus Civilization

There are different methods in practice to obtain an absolute chronology of a particular region or country. Whereever the inscriptions are not available, it is essential for us to depend on the Radiocarbon dating, etc. But once the inscriptions are beginning to appear giving us a complete chronology or succession of the kings who ruled the region, there can be nothing more certain and accurate interpretation than these inscriptions recorded by the kings. The entire history of the country can be built upon such a solid foundation, when we are able to read the insctiptions accurately.

CHRONOLOGICAL CLOCK : ITS FAILURE TO SHOW CORRECT TIME

A decipherment need not be discarded on the ground that it is anachronous to find some names of foreign rulers which will suggest a late date for the Indus civilization; for, dating is such a complicated question that it cannot be taken for granted on a single source of evidence, that too on the basis of a few sample tests by C^{14} method. It is known that there are many pit-falls in the whole process of C^{14} dati dating. Again, C^{14} dating method cannot be deemed infallible because its results are dependent on the circumstances of the sites and their conditions of preservation through the ages. These sites seldom yield good samples of charcoal without being contaminated in a variety of ways.

There must be something fundamentally wrong with C^{14} dating method, either in its calculation of half-life or in the variations of cosmic radiations both at present and some 4000–3000 B.C. The author may be excused for venturing some suggestions in an unknownfield for him. The absolute faith in his decipherment makes him bold enough to point to the failure of Prof. Libby's chronological clock to give correct timings.

SUGGESTIONS FOR PERFECTING C^{14} DATING METHOD

To remedy these short comings of the C^{14} dating and also to help the refinement of this scientific discovery, the following suggestions are put forward.

1. Hundreds of samples for C^{14} dating from a well dated phase of history; (Of course, this will be based on epigraphical and numismatic evidence) of different countries from different parts of the world, should be tested to determine the half-life and finally the particular dates of the phases of history. This should be taken as datum for testing further samples from different phases of history, proto-history and prehistory, of that particular country.
2. Frequent checks as and when available should be made until the method attains refinement. For this the author would suggest to assess the samples from the same stratum or level of different Harappan sites which has yielded the same seals or sealings bearing the name of a particular ruler. The presence of such a sealing would indicate contemporainty of those levels where these have occurred (see fig. IIA). This is a more effective means of evaluating the results of C^{14} dating method than the first mentioned above. Evidence from fig. IIA shows that quite paradoxically the sealings belonging to the same rulers occur at different levels at the same site as well as at different levels at different sites. This failure may be due to the negligence of excavator to note the correct stratigraphic position of the seals.
3. The results of C^{14} determinations should be checked frequently and especially when controversies arise, with other scientific methods of dating and also by archaeological and epigraphical methods. Thus a combination of different methods would help as a check and also would lead to the perfection of each method.

INCOMPATIBILITY OF ARCHAEOLOGICAL AND HISTORICAL EVIDENCE

Similarly, archaeological evidence has often failed to reconcile with the existing historical evidence. For instance, the science of archaeology has not been able to confirm the well-recorded conquest and annexation of the Punjab and Sind regions by Cyrus and Darius I. To illustrate further this fact, one may note the homogeneous nature of the pottery and other finds from pre-Israelite (Cannaanite) to Israelite deposits in Palestine which puzzled many archaeologists for a long time until some Mycenaean potsherds gave them the clue to separate the periods. Mackay gives another instance at Atchna-Alalkh (Syria) where the continuation of the same pottery for 1500 years was noticed. So all these facts would compel one to conclude that conquests, annexations and occupations do not necessarily bring a change in the cultural pattern of a civilization. We are apt to miss many facts about the ancient civilizations in our bid to unravel the mysteries of the past. While piecing together the past, the science of archaeolgy will be able to reconstruct only a five percent of what has been lost through the ages.

Now it is clear that any one particular branch of science cannot exclusively claim to increase our knowledge of the past. It has now become a collective resposibility of all the branches of learning.

Sometimes, as in the present case, even though we are able to read the inscription successfully, we are at a loss to find out the basis for our calculation, for, in the very ancient times there was no practice of recording the years in terms of a fixed starting point as existed in our Saka era, etc. Thus the only clue to build up the chronology lies in checking up the lists of kings and comparing them with the lists of the contemporary kings of other countries. This very method was followed here in arriving at an absolute chronology.

Unfortunately the lists made available to us by the seals and sealings, do not comprise the familiar names of the kings from our ancient traditional literature *i.e.* in the Vedic texts and epics (*Ramayana*, *Mahabharata* and *Harivamsa*) and *Puranas*, etc. Thus the task becomes more difficult in tabulating the lists of succession of each tribes or kings and dynasties. It is extremely surprising to find not a single evidence of the Puranic kings and dynasties in the seals though on other grounds we could arrive at several asbolute dates of the duration of this civilization to be from the beginning of the 3rd millenium B.C. In some pleces Vedic texts did give us reliable date, but this is meagre.

In the light of the above evidence it is assumed that there was a dark age in India from the 9th Cent. B.C. to the beginning of the Mauryan period and this may be possibly due to the invasion of the barbarians in the 8th—7th Cent. B.C. onwards.

Here is given a tabulated list of 83 names of contemporary kings of other countries whose names appear also in the Indus seals. Even though there was every likelihood of the repetition of of kings' names in their descendants every caution was taken to arrive at the date on other evidence also. Thus cross checking in certain cases helps us to have a solid ground to fix a date.

11

The Language and the Grammar

The nature of inscriptions in the occurence of the names of persons, gods, kings, families, tribes, towns and cities, animals, plants, trees, household furniture, weights and measures, currency, etc. gives us very little scope to deduce the grammatical structure of the language.

However, it is possible to know certain general features of the languages depending upon the case-ending used in the proper nouns. In our reading of the names in the inscriptions, as illustrated in 'Ppavane' and 'Syone' 'Rasadale' etc., the case ending for the nominative singular as well as plural is 'e'. In the Vedic language it should have been 'O'. But we may notice the survival of such ending 'e' in certain Vedic usages like 'Nishke' etc.[1] But it is Dative, masculine singular and is in accordance with Vedic grammar. Thus we can say that the language in the early stages was proto-vedic and gradually it evolved into a vedic language. In addition to this, the language suggests a transitory stage of Prakrit evolving into a stage between Avestan and Vedic Sanskrit. It may also be observed that the case ending (nominative singular) 'e' as in TANADAMANẸ, is analogous to the Assayrsan language.[2] The *sandhi* was optional in this proto-vedic language like many of the Prakrit languages. It was so especially between 'a' and 'e' being illustrated in the name 'Pavana' + 'e' = 'Pavane'. It was also written without any case ending as Pavana. In the word ISA+ANA=ISANA, the *sandhi* became optional here. The same word was observed, inscribed as ISANA

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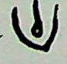
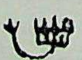
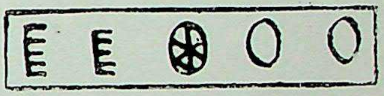
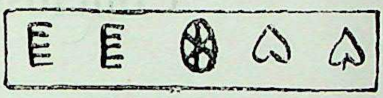
1. Macdonell A.A., *A Vedic Grammar for Student*, London, 1958.
2. Hall, H.R., *The Ancient History of the near Egypt*, London, 1924.

with *sandhi* between A+A=AA preferred. Again 'S' 'ISHTA URA' for Ishtar, was written without the preference for *sandhi* rules. Same was with 'PASTOKA' for PASU TOKA.

This optional *sandhi* suggests the people followed a spelling of writing as we observed at present in English, French etc. This implies that the people were habituated to write every consonant and vowel separately, but while pronouncing they would have articulated with due regard to *sandhi* rules. Here we may take by way of an example the word 'VA RA JA DA SA RA NA for VRAJADASARNA'. Similar system of writing was common in ancient syllable writing of the Cypriotes and in the early Greek and Pali writings also. This is illustrated by an example of 'SATASIKARAS' in Cypriote for 'SATSKRATES' which is pronounced in Greek.

We will consider now some more details of the language. As has been illustrated in the fig. No. 6. It is clear the script does not contain all the 52 letters of the Vedic Sanskrit.[1] Strikingly the cerebrals do not find place in the Indus Script. Caldwell holds that the cerebrals are later borrowings into Sanskrit. Further, very little distinction was observed in the use between THA, DA, DHA-NA, NA-PA, BA, VA-PHA, BHA, TVA–; SA, SHA-SHTA, STA, STHA-TSA, TYA-CHHA, JA, JHA-EU, YA-LA, LA. These are but few illustrations, and the full details may be noticed in the charts accompained by transcriptions. Ya, Va, U are interchangeable. This might have been due to the impact of semitic people (Asuras and Panis) who inhabited the Indus Valley along with Aryans. For this reason we find several semitic words in Indus seals. For example, the words, Dannu, Susa, Sarana (Dannu means powerful; Susa means Capital City of Elam; Sarana means king).

The modification of the consonant signs with the medial vowels was suggested by the scribe in very few cases by tick marking and by incorporating the actual vowel sign into the consonant sign. Examples of this may be noticed in fig. 6 and 7. In many other instances the scribes preferred to write the consonants and vowel signs separately like all other systems of writing of the ancient world. Example of this kind may be seen in fiig. 7.

Standardization was not attanined in the case of conjuncts. Some consonant signs were combined, some were written separately to be pronounced as conjuncts. The examples in the first case may be seen in fig. 7  TSA  RYA. In the second type VRAJA DASARNA (vide No. 22 Pl. 110) may be taken as an example. Sometimes, the Prakrit way of writing may be noticed in fig. 70 BABADHA Kasadhajapa instead of KASADAITYAPA and Kasamana (vide No. 15 of Pl. 110) for Krishnala or Karshamana. The scribes, probably because of the Prakritic usage, very often committed mistakes while writing the similar sounds of each grop viz. labials, dentals, etc., wrote one for the other. Thus we see O was used for Pa and Ba. See Seal No M. 253 of fig. 105 and No. 1040-41 of fig. 99-Pavadatsan written for Baba Datasapa. In some other seals it was written  . We know it cannot be intended for Papa, EE on the ground that the same inscription occurred several times with the sound 'Ba'. As for example; See Seal No. Mc 43 fig. 101  (Baba Raja EE). Alternatively perhaps the error might be due to some lapse of time which necessitated the later generation of scribes either evolve a different form from the original sign or use the sign with a different value without being aware of its earlier phonetic value. Such slips were not infrequent in the epigraphical records.

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[1] Caldwell, Rev. R., *A comparative Grammar of the Dravidian or South Indian family of languages*, London, 1875

The occurrence of accent in the consonant as a doubled letter as in PPAVANA etc. is a uniform feature in ancient languages of India and other of Aryan group.

The prefix Ni gives us a typical formation of words in the language. For example Rana, Nirana,—Surana, Nisurana-Pavana, Nipavana-Damana, Nidamana. This is typical Asura prefix with which we are familiar in the Puranas as Sumbha-Nisumbha, the two Asura brothers who fought with Durga.

I have enumerated only a few instances here in order to give a glimpse of the structure of the language. Some more instance of peculier usages may be seen in fig. 70. Indeed it is a matter for the philologists to lay bare all the other features of the language. I would, therefore, like to leave the matter into their hands now, while making a few observations here. I feel that the seals and sealings may contain certain specimens of many contemporary ancient languages. The feasibility of the existence of many languages in Indus seals may well be corroborated by the evidence of kings, merchants, deities of Aryan, Asura and Pani and other tribes inscribed on the seals with their analogical reference in the Vedic texts, for Panis as 'Mandavak', etc. Also occurrence of certain Babylonian and Sumerian words such as, Ishtar, Nama, Ur, Ea, Baba, etc. would suggest some foreign influence in the Indus region.

12

Conclusion

From the foregoing study, it is clear that the authors of the Indus Civilization were not only Aryans but consisted of various other tribes who lived as in a cosmopolitan society. They became absorbed into a single race after having lived for centuries in the same sub-continent. Usually such a thing would happen in any urban civilization. Whoever is strong and intelligent take the others into their fold and the weak will be gradually absorbed with the dominant group in the society. The Aryans being once the superior race were spread all over the world with their immimgrations wave after wave. There is no wonder if we attribute the most ancient civilization of Sumer, Egypt, Indus Valley to the early Aryans.

The agglutanative character of Sumerian language and its counter parts in south India does suggest the early form of language which has evolved into open polysyllabic and inflexional languages in due course in India. Burrows observes the occurrence of many Dravidian words in Sanskrit. But these must have been the Sumerian and Babylonian words which could be simultaneously traceable in Dravidian languages also. This would suggest the borrowing of words from a common source, Mesopotomia. If we examine the sounds of the Aryan language it becomes clear that the open syllabic roots are the outcome of the agglutinative closed monosyllabic Sumerian words, when the last closed syllables gradually lost their value in constant changes in the speech habits of the people dictated by the times and also by fluent speaking.

Anyway this is a moot point and much light is to be thrown by constant research along this line of understanding of the ancient races and languages. Here, in India, as far as we are concerned, we have to bid good bye to the theory of Dravidians and Aryans as two separate races, since evidence is growing day by day to prove a common ancestor to us all and also since no such word as Dravidians could be traced in the entire reading of the inscriptions of the most ancient civilizations. Dravid[1] is known as one of the Prakrits and was mentioned thus by early Sanskrit grammarian in 7th Cent. A.D. The whole mankind seems to have been devided by differences in customs, religious beliefs, languages, etc. rather than by racial factors. The several branches of Aryans with different languages and habits prove the same fact.

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[1] Caldwell, *op. cit.*, pp. 4-7.

APPENDIX I

A Note on Stratification

Mohenjodaro

We are here concerned with the excavations at Mohenjodaro by Sir John Marshall (1922-27) and Mackay E.J.H. (1927-31). There was not much difference between the two in dividing the excavated site into 3 periods *i.e.*, early, intermediate and late. Each period was further subdivided into 3 phases. But these phases were marked from bottom upwards as III, II and I contrary to the present norms of field archaeology.

Except for minor adjustments, that is, Late III* might belong to intermediate period, and like wise Inter III might belong to early period, there is not much change in the general assignment of the periods.

Under Marshall's supervision excavations of D.K, H.R, S.D. and L areas have been under taken during the period 1924-25 and Mackay excavated again D.K, S.D areas of Mohenjodaro during 1927-31.

But no body could reach the virgin soil and thus could not lay bare the early period completely because of the rise in the sub-soil water level.

Mackay noted that the city was evacuated twice due to two great floods, first during the intermediate III period and second during the late III period which were converted by him to late Phase of early period and late phase of intermediate period.

Harappa

M.S. Vats reported the excavations he undertook during 1920-21 and 1933-34, as a complement to the three monumental volumes on Mohenjodaro and the Indus civilization edited by Sir John Marshall, and the two volumes of further excavations at Mohenjodaro edited by Dr. E.J.H. Mackay. M.S. Vats undertook excavations of Mounds F and A B, and areas J, G and cemetery H.

*Mackay, E.J.H., Further Excavations at Mohenjodaro Vol. I, pp. xiv & xv.

Vats has tabulated below the tentative and comparative age of Harappa on the basis of the evidence regarding chronology of Mohenjodoro period.*

Period	*Strata*	*Date*
Mound F		
Late I Late II Late III	1st to 3rd	*circa* 2750 B.C. to 3500 B.C.
Intermediate I Intermediate II Intermediate III Intermediate IV	IV to VIIth	*circa* 3050 B.C. to 3500 B.C.
Early I	VIIIth	First half of the 4th Millenium B.C.
Mound A B		
Late I Late II Late III Late IV	Ist to IVth	Contemporary with the late period in Mound F, but the 1st strative is possibly later still
Intermediate I Intermediate II	Vth and VIth	Before *circa* 3050 B.C.
Area J		
Late I Late II	Ist to IInd	*circa* 2850 to 3050 B.C.
Intermediate I Intermediate II	IIIrd and IVth	Before *circa* 3050 B.C.
Area C		
Late I Late II	Ist and IInd	*circa* 2700 B.C. to 2800 B.C.
Intermediate	IIIrd	*circa* 3250 B.C.

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*Vats, M.S., *Excavations at Harappa*—Vol. I, p. 9.

Period	*Strata*	*Date*
Cenetary H		
Late I Late II	Ist and IInd	*circa* 2000 B.C. to 2500 B.C. (approximate upper and lower limits between the two strata may be supposed to have existed at any time. A difference of about 50 years between them should be ample.

Reasons for above Dating

Mound F, so far as the buildings and antiquities of every kind (including the seals) are concerned, is contemporary with the late and Intermediate Periods of Mohenjodaro, but from the IVth stratum downward it contains an increasing proportion of tiny seals and sealings of an archaie type which are peculiar to Harappa and to the like of which have not been found hither to at Mohenjodaro. Even the IVth stratum downwards, therefore, this mound may be said to be earlier than Mohenjodaro.

APPENDIX II

Notes to the Reading of the Seals & Glossary

Adad :	Storm God wielding the thunder bolt and hurling the lightning. He was also called *Ramman*, God and men fear *Adad*. He is the destroyer. He is the God of Oracles and hence he is associated with the Sun God.
Agglutilative :	Is "adding qualifying words in the form of prefixes or Sufixes to the root and so building up longer or shorter compound words round the unchanged root with a view to expressing modifications of its writing". (Driver, G.R.; p. 58).
Ana :	He is Babylonian God of the lower world, and Son of IL or Ra. A single wedege representing No.60 is his emblem.
Anu :	Babylonian solar deity. He is the God of heaven and King of the Gods. His original seat was *Uruk*. All the Gods and Goddess are his children. He is one of the Triad i.e., Anu, Enlil and Ea, in the Babylonian pantheon. His consort is Anu Tum. Anu was replaced by Ashur in Assyria.
Anu :	People different from Aryans live on Parusni river. Also for God Agni. Gaga is Anu's messenger.
Apnavana :	Ancient sage – belonging to Bhrigus.
Arithmetical Progression :	In *Panchavimsa Brahmana* occurs a list of sacrificial gifts in which each successive figure doubles the amount of the preceding one. It begins with the Dvadasa—manam hiranyam; Gold to the value of 12

	(the unit being uncertain, but probably the Krishnala) followed by to the value of 24, 48, 96, 192, 384, 768, 1536, 3072, then *dve-astavimsati-satamane* which must mean 2 X 128 X 24=6144; then 12288, 24576, 49152, 98304, 196608, 393216.
Asuras :	are rich and more powerful than their opponent Vedic Aryans. They have also got well fortified towns. Asura kings are : Tugra, Smadiva, Mrigaya, Vritra, Vala, Veca, Satgrivi, Sambara, Varchi, Navavatsava, Vrihadradha, Krishna, Sushna, Pipru, Ilibisa, and others. They worshiped Varuna. Originally Asuras were the inhabitants of northern Babylonia (from city Ashir) where they came into contact with Semites and as a result their culture, religion, language were mixed Indo—European and Semitic. Their original house may be upper Tigris river valley known to historical period as *Tsapun* and muzri.
Ashur :	In Assyria, he is the counter part of Marduk of Babylonia. He is the God of the city Ashur. He is depicted as warrior with bow and arrow with in a solar Disc. Winged solar Discs are his symbls, suggesting spiritualised power as revealed in Swastika or Cross. His temple is called A-*Sharra*. (House of Ashur. Ashur has all the power of Anu, Enlil and Ea).
Bana :	A Daeva mentioned in the Avesta along with Daeva Kunda and Vibana.
Bel—Merodasch :	Is known as the 'Old man of the Gods', 'the Judge', 'King of the heaven and earth', 'the Great lord', 'the most ancient', 'the supporter of Sovereignty', he has the emblem a human figure standing and walking as can be found in the ideogram for War God *BA BA* in Indus script.
Bha Bhah :	Sky; *Bhabha Isah* : Sun, Ruler of Babylon. *BA BA* abbr. for the city, Babylon in Iraq.
Bhaya :	Fear personified (as a Vasu, a son of Nir—Viti or Ni—Kriti, a prince of the Yavanas and husband of the daughter of Kala or Vaivasvata.

Bilingual :	Writing in two languages. For example Rosetta stone which was inscribed in Egyptian and Greek languages for the same text. It was deciphered by Jean Francois champollion in the year 1824.
Coins :	Mentioned by Panini : Pana : Karshapana, Pada, and Vana.
Cuneiform Writing :	Writing in the shape of wedges as found in ancient Babylonia, Persia and Assyria.
Cuthah :	An important city in southern Babylonia.
Daevayasnians	Daeva worshipers.
Determinative :	The group of signs, *M.N.H.* In Egyptian language could mean 'Wax of the papyrus plant and a 'Youth'. In order to suggest clearly what the scribe actually ment, he would add another sign to signify papyrus plant, thus completing the meaning 'the Wax of the papyrus plant.' The sign for papyrus plant is a determinative for the entire group *M.N.H.*
Damana :	*Taming*, Subduing, overpowering, conquering, defeating, occurring at the end of Kings's names.
Dasa-Vraja :	is the name of a portege of Asvins in Rigveda.
Dharanam :	A weight of 10 palas.
Ea :	Babylonia solar deity. He is the God of waters and the Persian Gulf. His temple is *E-Saglla* at *Eridu*. He is the protector and friend of the man kind. He is the God presiding over arts, architecture etc.... He taught the mankind the civilised way of living. He drives away the demons, diseases.
Early Rulers of Elam :	Khutran-Tepti; (Basa) Basha (Vasha or Vasa) Shushinak. (Susana) or Susiana.
Ekasapha :	One eighth (1/8) Eksatva (noun)
Enlil :	Storm God in the earliest period where Sumerians became agriculturists. He became their agricultural solar deity. He is the God of the Sacred City *Nippur* which is written as place of '*Enlil*'. He is pictured as a mighty warrior who leads his people to victory. He is the God of all lands. His original city is *E-Kur*. 'The mountain house'. His title is *Nunammir* (hero of rulership). He is the lord of the earth and atmosphere.

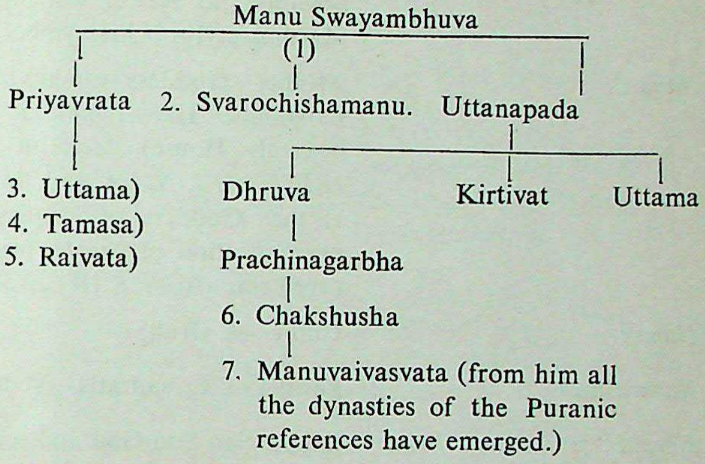
Enu : *or Bil* :	Enu is cushite turn for Bill meaning lord of the Semitic language. He is the God presiding over chase. He is known as great conqueror.
Etasa :	Protege whom Indra helped against the Sun God Surya.
Franrasyana :	A turanian killed by Kavi *Husrava*. (Susrava).
Gaga :	messenger or ambassador of Anshan (Elam) also a messenger of Anu.
Ganah :	A small body of troops (a subdivision of *Akshauhini*) consisting of 27 chariots as many elephants, 81 horses and 135 foot.
Gold (Suvarna) :	Golden Treasure=*Hiranyayani* Gold currency; weights of Gold : 1. *Asta prud* (occur in *Samhitas*) 2. *Satamana* (weight of 100 *Krsnalas*) *Harita*=gold (yellowish) *Chandra* *Jatarupa* Gold *Suvarna*
Hapta Hendu :	The fifteenth country of Aryan migration according to Avesta. It is also known as Sapta, Sindhu in the Vedas.
Haraquaiti :	The tenth Country according to Avesta where Aryans have migrated. It is known to the vedic period as river Saraswati, meaning abounding in water.
Hieroglyph :	formed of Greek '*hieros*' meaning sacred and '*Glypho*' meaning to carve pictures of objects standing for words and syllables and pictures of ideas used in the ancient Egyptian writing system.
Homonym :	Is a word having the same sound, but donot mean the same thing. For example the word having sound value *M.N.H.* may mean two things:- Wax of the Papyrus and youth.
Husrava :	According to Avesta he is a valiant Uniter of the Aryan regions into one Kingdom.
Homophony :	means different signs having the same phonetic value.

Ideographic : (or Logographic Writing) *Writing* :	Writing with the help of simplified pictograms or conventional abstract signs without having any sound values, that means there is on link between the spoken sound and written symbol. The symbol is attached to the thought process of the reader. The advantage of this method of writing is communication between two persons belonging to different races or languages. The only problem of this ideographic or Logographic method is that there should be earlier agreement for the usage of the conventional signs which are the substitutes for difficult words and for abstract ideas by both the parties or among the groups.
Ideogram :	A sense sign symbolising the idea of a thing without taking into account its pronunciation. For example the sign + may be understood as Plus or more or in addition to or a junction of two roads. Again the picture of a Sun rising over the picture of a tree denotes the word *East*. This is an ideogram.
Ilibisa :	a Dasa chief who assisted Vritra against Indra.
Il :	Semitic word for God.
Indra :	in Rigveda has the largest number of bymns about 1/4 of total. Bears Vajra, exclusive weapon—also carries hook and bow and arrow. He is a car—warrior (Rathestha) more addicted to *Somapa*. His father is Dyaus according to some Tvashtri. Agni his twin brother; Maruts (Ganas and Sardas) his allies, so known as Marutvant, liberator of water. Attacked Vritra (who was often called *Ahi*-Serpent). He is so generous to his worshippers that Maghavan (bountiful)is almost an exclusive epithet of his. He is also known as Makhahana.
Inflective :	"indicating the relation of the inflected word to others in the same sentences or some aspect of the conception which expresses by internal modification of the root or by the addition of Prefixes and Sufixes which have no independent existence of meaning (G.R. Driver, p. 58).
Isana :	Owning, possessing, wealthy, reigning, a ruler, master, one of the older names of Siva-Rudra. The sun as a form of Siva.

Ishtar : *or Nana* :	The Goddess she has epithets 'Assurah', 'the fortunate' 'the happy', 'mistress of heaven and earth', 'the Goddess of War and battle', 'Queen of Victory'. Her symbol is naked female form.
Ita :	Rsi and Protege of Indra.
Iva : *or Vul* :	Babylonian God of Atmosphere. His symbols are the beaming sword and the double or triple bolt. He is the giver of abundance.
Kala :	One-sixteenth (1/16th).
Kavi :	means a warior king according to Avesta. A few names of other kings who accomplished great deeds are given in Avesta. *KAVI, USA DHAN, KAVI ARSH, KAVI KAVATA, KAVI AIPIVOHU, KAVI, PISHINA, KAVI, BYARSHANA, KAVI, SYAVARSHANA, KAVI HUSRAVA.* These names have close resemblance with those occured in the Indus seals.
Kavacha :	Son of Ilusha.
Kavacin :	Covered with armour-mailed; name of Siva; or a Sun of Dhritarashtra.
Kavi :	Vriddha—the wise; and a king.
Khasa :	Kasya, Cassite Aryans (Kassites=Babylonian Kasshu, Egyptian Kush, Biblical Kushites, Iranian Cossai, Vedic Kasu, Puranic Kasya, Khasi, Kasa). Kasa is the mythical progenitor of the Kasi dynasty. Kasas, descendants are known as Kasya. The rulers mentioned in this dynasty are, Rastra, Dirghatapas, Dhanva, Dhanvantari. His successors were Ketuman, Bhimartha, known also as Divodasa. Haihaya, Bhadrasrenya, conquered Paurava and Kasi kingdoms. However, Divodasa asserted his power.
Kspavan :	King.
Kustha :	One twelth (1/12th).

Manas : Agastya must be meant—a descendant of Mana.

Manu :


Manu Swayambhuva
(1)
Priyavrata
2. Svarochishamanu.
Uttanapada
3. Uttama)
4. Tamasa)
5. Raivata)
Dhruva
Kirtivat
Uttama
Prachinagarbha
6. Chakshusha
7. Manuvaivasvata (from him all the dynasties of the Puranic references have emerged.)

Manu : Appears on Kulliware as Mannu Dannu.

Marduk : Head of the Pantheon at Babylon since the time of hammurabi. He is a solar deity and called the son of Ea (mummu). His Sanctuary at Babylon is known as E—*SAGILA* (Lofty house) His consort is Sarpanit.

Maruts : (gana and Sardhas) sons of Rudra and Prisni. Storm gods, Vayu, all brothers—associated with Vidyut. Wear helmets, mantles, garlands etc.

Masa : mentioned in the Avesta along with Vara, Paradhata, *HAOSHAYANHA*, Prayed *DRVASPA* to smite mazanian and varanian daevas.

Morphology : Study of the forms of words which are grouped into sounds and sound complexes of distinct meaning. The word is formed of (1) stem or root and (2) the flections or terminations which connect with other words in the sentences. Bloomfield writes; 'By the morphology of a language we mean the constructions in which boundforms appear among the constituents'.

Morpheme : is the meaningful unit of the language which is not further divisible. Thus *boys* consists of two morphemes, *boy* and S, Boyishness consists of there morphemes i.e., boy, ish; ness. (the above examples have been taken from the book the semitic writing by G.R. Driver).

Nabu :	He is the Babylonian and Assyrian god of writing. Borsippa his seat of worship. He is known as son of Marduk, stylus is his symbol.
Nana :	Mother - Goddess worship in the early period at Uruk, in Babylonia. Her temple is known as E—*ANNA* (The heavenly House) later on she is known as *INNINA*, *IRINI*, *NINI*, *NINA* and *ISHTAR*, at other places she is the Goddess of fertility, love and war. She is the personfication of female principle. Her symbol is sixteen rayed star (from *RAWLINSON's*—Ancient Monarchies).
Nana :	Ishtar of Uruk.
Navavastava :	Epithet of Brihadratla—Vedic Index Vol. I, p. 72.
Nergal :	Babylonian Sun God and son of Enlil, showing the destructive force. He is God of death. He is depicted as lion. He is God of war and brings victory to his people.
Nami Sapya :	Is the name of man in the Rigveda. May be a king. In the *Panchavimsa Brahmana* he appears as '*Namisapya, Vaideho raja*', King of Videha. In one passage he is represented as engaged in the contest against *Namuci* the demon.
Nina :	*GODDESS.*
Ninib :	Originally war God of the Amorites. He was brought to Babylonia by the Semites. He is described as the son of Enlil. Ninib is a solar deity who brings prosperity to the people. He is also a war God. He is the judge who despenses justice to all the people. Ninib protects his people from demons of disease. He is the deity who presides over the chase of wild animals. He is Assyrian Hercules. He is described as the sun of spring time and also the morning sun. He is also known as *BAR*, *NIN*, *NINIP*. Man—Bull is his emblem.
Nisa :	One of the sixteen countries mentioned in Avesta, where Aryans have migrated.
Pada :	One fourth (1/4th).
Panca-Janah :	Druhyus, Yadus, Turvasas, Anus and Purus the famous five people of Rigveda. Aitareya Brahmana explains the

	five to be; Gods, Men, Gandharvas, Apsarases, Snakes and fathers. Indra is known as Panchajanya—belonging to the 5 peoples.
Pava :	Purification, winnowing corn, air, wind name of a son of Nahusa, name of a country.
Pavana :	Purifier, wind or the God of wind (Vayu). Name of the number 5 (from the 5 vital airs) a house holder's sacred fire; name of a son of Manu Uttama; of a country in Bharata Kshetra.
Pavana :	The land of the Indus. It is identical with Punt, Puene (t), Popularly known as punt, the coast line of the red sea as it was originally thought to be.
Peshana :	The worshipper of Daevas killed by Kavi Vistaspa.
Pithinas :	Is the name of man, a friend of Indra, in the Rigveda. He is the founder of the Hittite Empire (from some other sources).
Pictogram :	Denotes the thing by actual representation in a simplified picture. For example, the picture of Sun or Horse denotes that particular thing but not the name of the thing or sound.
Phonemes :	Phonetic symbols, each representing a phoneme or family of closely similar sound what ever may be the letter or letters used in ordinary spellings to represent that kind of sound. For example : K—Family; Cat, Keep, Choir, Quiet, like, Lick, Clique.
Polyphony :	Means a single sign having more than one syllabic value.
Phonogram :	A written sign with a sound value.
Phonetic Writing :	Writing with the help of signs or pictures representing sound values either alphabetic or syllabic.
Pra-Stoka :	Is the name of a generous donor in the Rigveda whom some scholars identify with *Divodasa Atithigva* and *Asvatha*. It appears from *Sankhyayana Srauta Sutra* that *Bharadvaja* obtained gifts from Prastoka *Sarnjaya*.
Puna :	Purifying *Sapuna* the name for the entire Indus valley.
Ra :	Native chaldaean word for God.

Rabu :	Governor or Commander of Assyrian army.
Raji :	Occurs in the Rigveda—seemingly as the name of a king, or perhaps demon, slain by Indra for Pithinas.
Ranha :	The sixteenth country mentioned in the Avesta where the Aryans have migrated towards the east of it. According to the reading of Indus seals it must be the Rann of Kutch and Gujarat region.
Ratu :	Chief, Master or Lord.
Ravana :	Name of the ruler of Lanka or Ceylon and the famous chief of the Rakshasas or demons whose detruction by Ramachandra forms the subject of the Ramayana (a son of Visravas, he was younger brother of Kubera, but by different mother, Ilavilla being the mother of Kubera and Kesini of the three other brothers, Ravana, Vibhishana, and Kumbha Karna. He is one of the worst of the many impersonations of evil common in Hindu mythology; his power was as usual, acquired by self-inflicted austerities, which had obtained from Brahma a boon, in virtue of which R, was invulnerable by Gods and devine beings of all kinds though not by men or a God in human form; as Vishnu became incarnate in Ramachandra to destory R, the other Gods produced innumerable monkeys, bears, and various semi—divine animals to do battle with the legions of demons, his subjects, under Khara, Dushana, and his other generals, M. Williams).
Rigvedic Kings :	Ksemadhrtvan son of Pundarika-s; Para; Athara Hairanya nabha, Kausalya.
Rudra : *(Isana)*	mightiest of the mighty lord and father of the world. Has braided hair. Brown complexion—wears golden ornaments and a glorious necklace (nishka). His epithets (Jalasha (cooling) Jalasha Bheshaja (Possessing cooling remedies).
Sabha :	Assembly of Vedic Indians of Brahmanas and Maghavans.
Sabhasad :	(Sabhasta) Sitter in assembly (assessors) also perhaps heads of families.

San : *or Sans* :	The Babylonian Sun God. His semitic title is *SHAMASH*. San is the 'Supreme ruler who casts a favourable eye on expeditions', Vanquisher of the kings enemies'. His seats of worship axe, Larsa and sippara. His symbol is circle or disk sometimes quartered.
Sargon : (*Sarrukin*) :	(The established king). Sar or Sarru means king and kin means to establish. Gin or Gina is the Turanian equivalent of the Assyrian Kin or Kina.
Sarana :	Brother of Krishna; minister of Ravana sent to Rama; Stretching out, extension—a tyrant—the Philistines—Sun God—King of Assyria, king of Babylonia.
Satasas :	By hundres or Hundred times.
Sibi King :	Amitra Tapana; Susmina.
Sibi :	Son of *Usinara*—Portege of Indra (who sacrificed for him on the *Varsisthiya Plain*) and saved him for fear of foreign invasion. Amitra tapana a king of Sibis mentioned in *Aitareya Brahmana*.
Sin or Hurki :	Is the Babylonian Moon God worshipped at *UR* and *HARRAN*. He is the God of Wisdom. An old person with beard and with a Moon Crescent. He is described as a Bull. His titles:—'The chief, The powerful, Lord of spirits, Chief of Gods or heaven and earth, The lord of buildings! His symbol is crescent or a new moon.
Shamash :	Is the Sun God of Babylonia. His seat is Sippar. Shamash is a semitic name, it's equivalent in Sumerian is Babbar. There is another seat of Shamash worship at Larsa, where his temple is called E—Babbar (Resplendent house). During the times of Sargon and Naramsin Shamash became the Sun God, Par—Excellence.
Somah :	1. Name of plant, the most important ingredient in ancient sacrificial offering. 2. The juice of the plant. 3. The nector, beverage of the Gods known as *Rasa*. The plant is known as *Rasadala* with eight leaves on each side.
Somaplant :	Applauded as *Pratnamit; Yajnasya Purvyam, Yagnasya Atma, Dali, Piyusham.*

Stokah :	Little, Small, child.
Stomah :	Praise, hymn, Soma libation.
Sumer :	The country was devided up into half—a—dozen small city states each with a capital city from which the state took its name, and each in turn or sometimes two at once, would have control over the whole federation. Inter—State wars occurred with great frequency by most, have been on a very moderate scale, and were usually the result of dispute about the distribution of irrigation water.
Tanutamon :	Ethiopian king who invaded Egypt in 665—664 B.C., Assyrians pronounced the name as *Tandamane*. Similar to the case ending of the Indus inscriptions *DAMANE*, *PAVANE* etc. (Hall page 503).
Ur—Ea :	(or *Ur*—Bagash) The first king of United Babylonia, who ruled not less than 3000 B.C., In his time, in the ruins of *Ur* there was found a piece of Indian teak. The evidence is conclusive because this particular tree is located with accuracy in (Dekhan southern India). Ragozin Vedic India) p. 212. Recently he has been identified with Urninesh of the third dynasty of *Ur* belonging to 2200 B.C.
Urjayanti :	Urjayanti is the name of the fort; the strong hold of *Narmara* (Sun). He is identified with Narmer of the 1st dynasty of Egypt and a legendary manu.
Urvi :	Wide region, the earth, land.
Urvisa :	Urvisvara, and Urvipatih—a king.
Vahah :	A measure equal to 10 Kumbhas or 4 Bharas.
Vamsah :	A Race, family; dynasty, lineage. Also a particular measure of length (equal to 10 Hastas).
Vandaemano :	A Turanion king whose son Arjataspa. A Daeva worshiper fought with Kavi Vistaspa in the war of the world.
Varsna :	'descendant of Vrsni or Vrsni or Vrsna is the patrouymic of Gobala, and Barku, and of Aiksvaku.
Varsneya :	A descendant of Vrsni is the patronymic of *Susa*.
Varsa-Gana :	Descendant of Vrisagana—is the patronymic of *Asita*.

Vrsa Jana :	(Descendant of Jana) is the name of a famous Purohita.
Varuna :	Name of an Aditya (in the Veda commonly associated with Mitra, and presiding over the night as Mitra over the day, but often celebrated separately, whereas Mitra is rarely invoked alone, Varuna is one of the oldest of the Vedic Gods, and is commonly thought to correspond to the Ovpavas of the Greeks although of a more spiritual conception is often regarded as the supreme deity, being then styled 'King of the Gods' or I King of born Gods and men' or King of universe; no other deity has such grand attributes and functions assigned to him; is described as fashioning and upholding hevan and earth, as possessing extraordinary powers and wisdom called maya, as sending his spies or messengers throughout both worlds, as numbering the very winkings of men's eyes, as hating falsehood as seizing transgressors with the pasa or noose, as inflicting diseases, especially dropsy, as pardoning sin, as the guardian of immortality; he is also invoked in the Veda together with Indra, and in later Vedic literature together with agni, with Yama and with Vishnu in *RV* he is even called the brother of Agni; though not generally regarded in the Veda as the God of the ocean, yet he is often connected with water, especially the waters of the atmosphere or firmament, and in one place is called with Mitra *Sindhu-Pati* lord of the sea or of rivers, hence in the later mythology he became a kind of Neptune, and is there best known in his character of God of the ocean; in the MBH Varuna is said to be a son of *Kardama* and father of *Pushkara*, and is also variously represented as one of the Deva—gandharvas, as a Naga, as a King of the Nagas, and as an Asura, he is the regent of the western quarter (lokpala) and of the Nakshatra Satabhishaj. (from monier—Williams.)
Vara :	According to Avesta *YIMA*. The sun of *VIVANHO*, is the founder of the place of delight (resembling the Creeian Elysium) known as the Vara of Yima.
Varena :	The fourteenth country of Aryan migration according to Avesta. It is with four corners where Thraetaono (Vedic Trita) ruled and killed serpent Dahaka.
Vayu :	God of wind. Pava; Heva in Hebrew.

Vedic Aryans :	Kavi, Kutsa, Ayas, Crutarba, Divodasa, Trasadasyu, Rijicvan, Sarya and others. These were the special proteges of Indra who helped them in defeating the Asura kings.
Vedic Kings :	Abhayavartin Sayamana, Prastoka, Sarnjaya.
Visanin :	(Vedic Index) Occurs once in Rigveda as the name of tribe in the list of the enemies of the Trtsus, the word seems to mean 'having horns' but in what sense is unknown. Perhaps their helmets were horn shaped or ornamented, with horns. They may like their allies, Alinas, Bhalanas Sivas, and Pakthos, be reckoned as belonging to the tribes of the north—west.
Vimsa :	Twentieth.
Yasana :	Sacrifice with prayers.
Yima :	is identical with *Yama* of the Vedas. Yama is represented as ruler of the departed souls who live under his soveriegnty in another world in the enjoyment of all bliss and happyness where as in Persian mythology Yima's kingdom is placed on this earth in the fabulous region of Airyanse Vaeja and its inhabitants consist of a limited number only who dwell with Yima in a state of felicity.
Weights :	Adhaka, Achita, Patra, Drona and Prastha.
Weights & Measures & Coins in Vedic Age :	Mand, Krishnala, Gunja, Satamana, nishka.
Zamama :	Babylonian war God his seat is kish. He is also known as son of Enlil.

APPENDIX III

Key to Figures 83 to 108

Abbreviations used : *ideo.*=ideogram : *Det.*=Determinative : *Phon.*=Phonetic

Figure 83

1. SA NA ideo. for PA VA
2. Ideo. for king or God, RA (ja) SA NA Determinative for personal name
3. VA SA NA Det. for personal name (4th sign)
4. VA or (U) SANE Det. for name. (4th sign)
5. VA MA (sign for showing break in continuity of expression) VA SANA Det. for name
6. SA VA SA I SA NA Det. for name
7. Ideo. for temple RA RA VA TAVA SA NA Det. for name
8. Ideo. for storm God, RA Bhudhama (monogram) PA (sign for break in continuity). TA VA SA NA Det. for name
9. PA VA SA NA Det. for name
10. VA I (sign for break) SA ideo. for God, NA Det. for name
11. ideo. for storm God BABA (sign for break in the continuity) VA SA ideo. for PAVA, NA
12. Ideo. for storm God BABA, BA (=BABA) YA SA ideo. for city NA
13. SA SA NA Vara (monogram)
14. SU SA SA PI NA
15. SU SA A NA
16. Mana (monogram) SO NI SU SA—ideo. for SUN God—NA

17. SA—ideo. for SUN God—NA
18. RA (ja) VA SA NA Det. for name
19. SA NA Vara (monogram)
20. SA—ideo. for God—NA
21. MA KHA NA SA NA
22. ideo. for God—I SA A NA
23. MA KHA NĀ SA NA
24. BHA YA SA NE
25. I RA DHA/VA NA RA/RA (ja) sign indicating break—SĀ SA NA
26. RA (ja) SA—ideo. for God—NA
27. SĀ SA NA RA (ja)
28. SA NA—ideo. for city or town
29. RA (ja) NI SU SA NA
30. RA (ja) VA SA SA—ideo. for God—NA
31. VA SA NA
32. 13/SA SA NA
33. 13/BHA YA SA NE
34. RA (ja) or RABA—SĀ SA—ideo. for God—NA
35. RA (ja)—break—SYO NA SA PI NA—SA VI PA PA (BA BA)
36. RA (ja)—break—SA PI NA
37. MA BHA PA—break—SA PI NA
38. ideo.—for a King of a particular place—RA (ja)— break SA SA PI NA Det. for name
39. VA RU NĀ NI SĀ—ideo.—for God—NA
40. RA (ja) PAVANA (monogram)—break—VA SĀ—ideo. for God—NA
41. RA (ja)—break—SU SĀ—ideo.—for God—NA
42. RA (ja)—break—SU SĀ—NA Det. for name
43. SU SĀ—ideo. for particular place—NA (some times with the phonetic Value SA)
44. Ideo.—for city or town—break—VA—ideo. for God—SĀ NA MUMA (monogram)
45. NU—ideo.—for God—DA SU SĀ NE
46. SĀ SU KA R (some times with phon. value—RA) (monogram) NA
47. 10.../PU SU SA NA
48. SĀ SU NA ideo. for God—(storm God, War God, etc.)
49. DA/SU SĀ NE (5th sign Det. for name)
50. 13/SĀ—ideo. for God—NA
51. DHA PU NA/SĀ NA
52. I (ideo. for God)/SA SA NE
53. 30/PU SA NA
54. SA/SA NA
55. RA (ja)—break—SA SA NA
56. SA—ideo. for God NA

57. VA SA SA SA NA
58. SA NE
59. I MA NA TA VA SA
60. RA (ja) – break – TA VA SA – PA VA (monogram)
61. TA – ideo. – for storm god – ideo. for Sun god – NA
62. VA – ideo. for storm God – ideo. for Sun god – NA

Figure 84

63. RA (ja) – break – TA VA SA Pava (monogram)
64. IMANA TA VA SA
65. SU TA VA VA NA
66. RA (ja) BHA VA SA VA NA
67. PU VA SA SĀ VA NA
68. JA – ideo. for place – SA – break – PU SU SĀ VANA
69. VA RA (ja) – break – VA NA or RA (ja) – BABANA
70. MI HA VA NA
71. PU VA NA
72. RA (ja) – break – VA THA – ideo. for storm God – abbr. for DA MANA – VA or, RA (ja) BABA DAMANA THA THANA (ideo. storm god Dhadhana used with a preceding *THA* to indicate full spelling THATHANA)
73. RA (ja) – break VA SA SĀ VA PAVAKA (monogram)
74. VA NA – monogram – BABARU (or BABRU)
75. SU SĀ VA PAVA (monogram)
76. DHA (ideo. for archer) RA (ja) – break – I MA or – RA (ja) DHA I MA
77. ideo. for storm God – monogram VARA – VA NA – break – I MA
78. RI NU I MA, (=king of Rina)
79. BA BA NI I MA. (=king of Babylonia)
80. RA (ja) – break – I MA
81. ideo. for Baba (sometimes with Phon. Value – '*Ba*') – I MA
82. RA (ja) – break – I MA ideo. for country (sometimes with phon. value 'Va' or Ba')
83. IVA NA – break – I MA – (or, VANA YANA – I MA means king of Vana and Yana)
84. YA MA.
85. RA (ja) – break – I MA – /same repeated
86. RA (ja) – break – I MA
87. 12/RA (ja) I MA
88. RA (ja) – break – I MA
89. I MA
90. I MA

91. U MA
92. ideo. for Baba – BA BA – break – I MA
93. NI SĀ PA – break – I MA
94. DA NA NU (=DA NNU) – break – I MA=(king) strong
95. SU DA MA NA – break – I MA
96. VA NA (monogram) I MA
97. KAVANA KAVANA PAMANU – break – I MA
98. U MA (or VA MA)
99. RA (ja) – break – I MA
100. 4, 3, 2/I MA
101. 2/I MA
102. 4/I MA
103. 13/I MA
104. 1/MA
105. RA (ja) NI (KAVA) NA/SA VIMSA 12 (or RA (ja) NI NA KAVANA)
106. SAME AS ABOVE/13
107. KAVA VINE/RA (ja) KAVA VINE
108. RA (ja) – break – BHA VA RA KA VA VINE
109. RA (ja) – break – KAVA VINA VARA
110. PA RA SA (PARSA – a tribe in Persia) KAVA VINA
111. KA VA VI NA
112. RA (ja) – break – KA VA VINA
113. BA BA KA VA VI NA
114. VI SA (tribe subject people) KA VA NI NA
115. VA I NA (or, BA BA NA)
116. SĀ JA KA VA NE
117. RĀ JA KA VA NE
118. VI KA VA NE (or, JA KAVANE)
119. VI NA VA RA
120. BHA KA VA VI NA VA RA
121. MA – break – PU SĀ KA VA VI NA VA RA
122. (Obverse) RA (ja) RA NA (Reverse) VI NI E – ideo. God – break – SA VA
On sides : ideo. God – TA/VA – 13/I PA/ideo. – God
123. RA (ja) – break – NI KA VA

Figure 85

124. BHA YA SA KA
125. RA (ja) – break – VA SA KA
126. – SA KA

127. DHA SA/SA KA
128. TA VA SA KA RA (ja) RA (ja)
129. SA NE/SĀ SA KA
130. SA KE
131. 3/SA SA KA
132. 13/RA (ja) – break – SĀ SA KA
133. 13/YA SA KA
134. ideo. for king/YA SA KA
135. 14/YA SA KA
136. DHA/YA SA KA
137. 3/YA SA KA
138. 14/YA SA KA
139. 13/SA KA
140. 12/SA KA
141. 14/SA KA
142. 2/SA/I SA KA
143. 13/TA VA SA KA
144. SA TA SA – 13 – /TA VA SA KE
145. RA (ja) – break – SA KA ideo. for country
146. RA (ja) – break – SU SA KA
147. RA (ja) – break – SU SA KA ideo. for God – RA NA RA (ja) BHU DHA MA RA (ja) abbr. for PAVANA
148. RA (ja) – break – SU SĀ SA KA/BA BA VI TA R NA/VA PA PAVA DHA MA RA (ja) SA
149. VA STA – break – I SA KA
150. RA (ja) – break – RĀ SA KA
151. ideo. for BA BA I VA RA (monogram) NI SA KA
152. VA NI SU SĀ SA KA
153. VA NI SĀ SA KA
154. ideo. for God – break – BHA SĀ SA KA
155. RA (ja) – break – PU SA KA
156. VA NA PU SA KA
157. DHA NA PU SĀ SA KA
158. RA (ja) – break – PU SĀ SA KA
159. RA (ja) – break – PU SA SA KA
160. PU SA KE
161. SA KA
162. VA RA – break – SA SA KA
163. RA (ja) – break – NI VA SA KA
164. RA (ja) – break – I SA KA
165. RA (ja) – break – YA SA KA

166. DA HA—break—YA SA KA ideo. for country
167. RA (ja)—break—KA KA YA SA KA
168. SU YA SA KA
169. ideo. for Sun God—YA SA KA
170. RA (ja)—break—VA SA KA
171. RA (ja)—break—SA KA
172. RA (ja)—break—SA SA KA
173. RA (ja)—break—SA KA
174. ideo. for country (sometimes with phon. value BA) RA (ja)—break—VA SA SA KA (or BA BA SA KA)
175. I SA KA
176. SA KE
177. PA YA YA (or YA YA PA) TA VA SA KA
178. YA PA—break—SU SA KA
179. TA SA KA
180. RA (ja)—break—SA KA
181. RA (ja)—break—I SA KA
182. SA—break—SA SA KA ideo. for country
183. SA KA ideo for country
184. SU SA KA
185. BA BA—break—SA KA
186. RA (ja) SA BA (ideo. god) BA/I SU KA

Figure 86

187. PU SU KA
188. VI DA NI SĀ KA
189. SĀ KA
190. PU SĀ KA
191. I JA—break—PU SĀ KA—break—VA
192. I JA—break—PU SĀ KA—break—YA YA
193. JA PA—break—SO KA
194. SO KA
195. 12/SO KA
196. MA (ideo. for God)—break—MA NA
197. —SA MA NA
198. SA—break—MA NA
199. RA (ja)—break SO MA NA
200. MA NA.
201. RA (ja)—break—SYO RA MA NA

202. MA—ideo. for king (sometimes with phon. Value NA) NA
203. 12/SYO RA MA NA RA (ja)
204. 12/SYO MA NE
205. 14/SYO MA NE
206. 3/I DA MA NE
207. 13/KA SA MA NA
208. 12/KA SA MA NA
209. 2/13/MA NA
210. MA NA
211. TA/14/SA ideo. God MA NA (SA TA MĀ NA)
212. RA (ja) BA BA MA NA
213. DHI—break—I RA MA NA
214. SA VA RA SA—break—MA NA
215. PA DHI MA—break—SYO MA NA
216. RA (ja)—break--NI RA MA NA
217. I MMA NA (Elamite God)
218. ideo. for God—break—I MMA NA Det. for name
219. I MA RA (ja) NA=(RA (ja) I MA NA)
220. RA MA NA
221. RA (ja)—break—MA NA.
222. RA (ja) RA NA TSA MA NA
223. RA (ja)—break—MA NA (ideo. for king or god)
224. RA (ja)—break—MU NA (Kassite God)
225. 14/MUNA
226. MI NA
227. Ideo. for God break-- BHA YA SA MI NA
228. MA NA VA JA RA (ja)
229. RA (ja) MA VA THA MA
230. RA (ja) DA MA NA
231. SA BHA NA DA MA NA ideo. for country
232. SA VA NI TA ideo. for God (sometimes fills up the space intended for a syllable in a name; here it is MA) NA=SA VA NI DA MA NA
233. SA IVAMA (ideo. for God X Plus Syllable signs IVAMA) NA DA MA NA
234. DA MA NI—(space, separating sign)—SA VA NA
235. PA MA NI DA MA NA
236. PA MA NA—ideo. for king or DHA—DA MA NA
237. RA (ja) RA (ja) NI DA MA NA
238. RA NA DA MA NA
239. TA VA (Monogram) NA SA DA MA NA
240. RA (ja)—break—NA SU SĀ SA DA MA NA
241. DA NA SA SA DA MA NA

242. RA NA—break—SA SA DA MA NA.
243. SU DA MA NA.
244. TSA BHU THA PA (monogram) PA SU DA MA NA
245. SA ideo.—God—break—TA VA DA MA NA—break—YA VA
246. RI VA DA MA NA.
247. RA (ja)—break—DA MA NA ideo. for country
248. DA MA NE
249. DHA MA NA
250. DA MA NA

Figure 87

251. PA DA MA NA
252. HA NI VA DA MA NA
253. VA RA—break—VA DA MA NA
254. RA (ja)—break—BA BA DA MA NA
255. RA (ja)—break—NI DA MA NA
256. DHA MA NI DA MA NA
257. DHA MA NA I PA NA
258. PU SA SYO NA DA MA NA
259. RA (ja)—break—I VA MA NA
260. BA BA DA MA NA
261. PU YA SA VA RA SA O—ideo. God—DA MA NA (Name is formed of initial syllables of Gods' names)
262. SA DA MA NA
263. PU VA SA DA MA NA
264. RA (ja)—break—SU DA MA NA
265. RA (ja)—break—PU DA MA NA
266. RA (ja)—break—BHA YA SA TA VA NI I DA MA NA
267. NU DA MA NA
268. PU VA SA DA MA NA
269. PU SU DA MA NE
270. TA VA TA VA—break—PU SA DA MA NA
271. RA (ja)—break—PU VA SA RA DA MA NA
272. RA (ja)—break—PU BHA YA SA SA DA MA NA
273. RA (ja)—break—VA SA DA MA NA
274. SU DA MA NA
275. PI SU DA MA NE
276. 12/RA—ideo. God—DA MA NA
277. VA NA—ideo. Sun God—BHA SA PA/12/SA DA MA NA
278. 13/DA MA NA PA VA

279. 13/DA MA NE
280. DA MA NE
281. SYO DHA MA
282. RA (ja) – break – PA DA MA PA VA
283. DA MA RA (Ja)
284. DA MA RA (ja).
285. PA PA – break – DA MA PA VA
286. RA (ja) – break – NI DA MA PA VA
287. DA MA ideo. for Country
288. THAMA or I THA MA or (I THMA)
289. RA VA NA DA MA PA VA
290. 12/PA VA/VA SA SYO NA
291. Ra (ja)—break—SYO SA NA or SA SYO NA (Distortion) of syllable
292. SU SYO NA
293. SA SYO NE
294. SA IMMA RA (ja)—break—SYO ideo. God NA
295. PU BHA SYO NA PAVA 30 ideo. Sun God/NI RA NA RA (ja) KA VA YA ideo. Sun God.
296. PU SA SYO NA
297. RA (ja) – break – SA RA NA/SU SA SYO NA
298. I VA RA (ja) E – break – SYO NA
299. SO ideo. God NA
300. YA YA RA (ja)/PAVANA SYO NA
301. SO SYO – ideo – God—NE
302. SYO A NE
303. 13/SYO NE RA NA (or SYO RA NA NE)
304. 12/SYO NE
305. 13/RA RA ideo. for God/SYO NE
306. 12/KA KA SYO NE
307. 13/SYO NE
308. 14/SYO NE
309. 13/SYO NE
310. 13/SYO NE
311. 13/SYO NE
312. 3/13/SYO NE
313. 14/SYO NE
314. SYO NA RA (ja) NA RA

Figure 88

315. SYO O NA
316. RA (ja) YA PA SYO ideo. God NA
317. KHA SA MA SYO ideo. God—NA
318. PU SU SĀ TA VA SYO NA
319. BHA YA SA SYO NA
320. MA Det. for name—MA SYO NA
321. NA NA SYO NA Det. for name
322. ...BHA—break—SA O NA SYO NA
323. TSA NA NI TA KAVANA SYO NA
324. VA DA BHA—break—SYO NA
325. JA NI—break—SA SYO NA
326. SA SYO NA
327. DHA MA NI SYO NA
328. BA BA VA NA SYO NA abbr. for SARANA
329. MA—break—PU VA SA SA O ideo. God SYO NA
330. I SYO NA
331. SA YAO NA Det. fore namc
332. SYO NA ideo. for storm God PA VA
333. SYO NA DHA abbr. for SĀ RA NA
334. SYO NA SU NA—MU MA (All Gods' names)
335. SA TA VA SYO ideo. for Sun God NA
336. SA BHA SYO NA
337. PU SA SYO NA IVA ideo. for storm God
338. RA(ja)—break—SYO - PAVA
339. RA JA RA NA SYO NA Det. for name - RAJA
340. U RA SYO Det. for name NA RA (or URA SYO NA NA RA)
341. SYO NA
342. SYO ideo. for god NA
343. RA (ja) RA NA
344. ideo. for strom God - Ra(ja) VI SA (abbr.)—break—SĀ RA NA)
345. MA RU NA ideo. for country
346. RA ideo. for War God—NA
347. BA BA NU PU BHA YA SA SĀ RA NA (All names formed of initial syllabes of names of gods)
348. VA SU SA RA NA
349. SU SA SYO NA/RA(ja) SA RA NA
350. RA RA(ja) NA
351. DA NA NU SU SĀ VA RU NA (DANNU=strong)
352. E PU ideo. for Sun god—RA NA

353. RA VA NE
354. U/BHARA
355. RA(ja)—break—SU RA NA
356. SU RA NA
357. RA RA NA
358. PU SU SĀ JA KA VA RA NA
359. RA(ja)—break—KAVA RANA
360. JA VA RA NA
361. SA O RA NA
362. RA NA
363. TA VA—break—RA NA
364. RA LU JA—break—RA NA
365. E SA RA NA
366. RA NA
367. RA(ja)—break—BHA YA SA BA BA NA NA
368. VA KA VA RA NA
369. ideo. for city or town, same repeated RA NE
370. SA VA SA VA R NA
371. VA PA RA NA
372. RI VA VA SO YA YA PA R NA
373. PA—break—VA RU NA
374. VA—MA PA R NA
375. RA (ja) - break--YA YA PA R NA PA (or ideo. for country)
376. RA (ja)—MA MA PA R NA
377. RA (ja)—break—MA SA PU R NA
378. YA YA PA—break—VA RU NA

Figure 89

379. PU VA VA JA—break—SĀ THA SA VA R NA
380. RA(ja)—break—VA SA VA RU NA
381. RA(ja)—break—SĀ KA KA R NA
382. PU BAA YA SA—break—RA NA
383. TA MA NI SA—break—RA NA
384. RA(ja) KAVA NA, VA, TA VA SA RA NA
385. VA E SA SA SA VA RU NA
386. NA (ideo. Ishtar Goddes) NA SA RA NA (or NANA SĀRANA)
387a. BHU TAAMA DHAMA—break—SURANA
387b. RA(ja)—break—SU RA NA
388. BA BA VI—break—TA RA NA or (BA BA VITARNA

389. RA(ja)—break—NI TA R NA
390. NĀ RA NA
391. ideo. for God—break—DI NA RA NA
392. VA MA NI—break—RA NA BHA NA RA(ja)
393. YA YA SA—2nd sign—ideo. for God—break—MA MA RA NA
394. SA NA 2nd sign—ideo. God/SA SA VARNA/NA SA MA RU NA
395. SA MA RU NA
396. SA VA NI TA VA RA NA
397. VA RA SA RA NA Det. for name
398. I RA NA
399. RA RA NA
400. RA NA
401. RA(ja)—break—RA NA Det. for name
402. MA RU NA
403. TA VA—break—MA/RU NA
404. PU SA TAVA RA NA
405. TA Det. for name—break—SU SĀ R NA
406. SA—break—SU SĀ R NA
407. RA(ja)—break—I RA NA
408. YA VI VA/MA NAPA R NA
409. RA(ja) RA ideo. for God—13/SĀ RA NA
410. 14 SA/YA YA SA RA NE
411. 14 SA/YA YA SA RA NE
412. 13 NU/SĀ RA RA NA
413. VA RU NE
414. 12/VA RU NA
415. 12/SA/VA RU NA
416. VA RU NE
417. RA (ja)—break—VA NU SA VA R NA
418. VA RU NA SA A ideo. city/VA RU NA
419. BA BA NĀ SA VA RU NA
420. PU BA, BA RA NA or (BA BA, PUR NA)
421. TA VA, VA RA, RU VA
422. Ra (ja)—break—VA RU NA
423. VA RU NA
424. RA (ja)—break—RA VA RU NA
425. MA—break—VA RU NA
426. RA (ja) SU SĀ VA RU NA
427. DA MA—break—VA RU NA
428. VA RU NA

429. SA/VA RU NA
430. SĀ YA YA RA NA (or YA YA SA RA NA)
431. RA (ja)--break—YA YA RA NA
432. RA (ja) —break—PU SA YA YA RA NA (or YA YA, PU SA R NA) or (YAYA, PUSANA, RANA)
433. RA (ja)—break—SU YAYA RA NA (or YA YA SURA NA
434. VA RA (ja)—break—YA YA SĀ RA NA
435. DU PA—break--YA YĀ SĀ RA NA
436. PU SĀ YA YA RANA (or VA YA PUSĀ RA NA)
437. DHA TA VA—break—YA YA PU SA RA NA (or PU SA RA YAYA NA)
438. RA (ja)—break—PU SA TA VA YA YARANA (or TAVA YAYA PUSARNA)
439. RA (ja) RA—break—SĀ RA VA NA
440. BA BA YA—break—YA YA SA RA NA
441. VA SA YA YA RA NA (or YA YA VA SARANA) (or VA SA RA YYA NA)

Figure 90

442. ideo. city DA SA/RANA/ideo. Sun God on either side
443. 12/RA NA
444. 12/SĀ RA NA
445. 8/SĀ RA NA
446. PU SA VA RU NA
447. PU SU SĀ RA NA
448. RA NA
449. RA NA—break—TA VA MA
450. RA (ja)—break—RA NA
451. RA (ja) TA VA RA NA
452. BHA SA TA VA RA ideo. for God NA (or TAVA BHA SA RA NA)
453. 1. RA (ja)- break—NI SU RA NA
    2. RA (ja) UR IVA
    3. RA (ja)/RA (ja)—I VA—RA (ja)—I
    4. U MA—ideo. king/NNA PPA
454. RA (ja)--break—SU SĀ R NA
455. TA VA NI PU RA NA
456. PU RA NA
457. DA MA NI RA NA
458. RA (ja) BHA VA SA SYO RA NA
459. ideo. War God BABA—break--VA SA RA NA
460. VA SA RA NA
461. RA (ja)—break—VA SA RA NA

462. SA VYA—break—PU SU YA SA VA RNA
463. VA NI VA RU NA
464. ideo. for God—break—TA VA RA NA
465. RA NA
466. SA RA NA
467. TA VA RA NA
468. PU VA ideo. city RA NA
469. ideo. for BA BA with phon. Value 'BA'—break—SA RA NA
470. RA (ja)—break—SĀ RA NA
471. UR/RA (ja) VA RU NA
472. 12/RA (ja)—break—SĀ RA NA
473. RA NA/God Pavana
474. MA—break—VA RU NA
475. 12 ideo. God/VA RU NE
476. VA RU NU—break—Det. for name
477. ideo. for God—break—ideo. for storm God—RA NA— Det. for name
478. RA RA (ja) break—SA VA R NA
479. SU VA R NA
480. BA BA MA—break—PU SA VA R NA
481. RA (ja)—break—I SĀ SA VA R NA
482. VA RU NU PU YA SA THI MA
483. VA RU NA—break—TA Monogram VA NA
484. 13/BHA SĀ SA VA R NE
485. 10/SAVA R NE
486. RA (ja)—break—VA—ideo. God—RU NA—break—ITSA or (TYA)
487. VA NI THA THA VA PA NA (with the wrong direction of the sign VA)
488. RA (ja)—break—BHA SḤ SA VAR NA
489. VA RU NE
490. NI RA NE
491. VA RA RA—ideo. God—NA—Det. for name
492. RA (ja)—break—RA—ideo. for God—NA Det. for name
493. 12/DA NA/BA BA PU RA NA or (BA BAPURNA)
494. SU MA HA
495. I MA HA
496. RA (ja)—break—SA MA HA
497. VA RA VA PA VA SA SA SĀ MA HA
498. BHU DHA PA VA TSA PA—break—VA SA SĀ MA HA
499. Det. for name PA VA—break—SA MA HA
500. ideo. for RA (ja)—break—SĀ NA MA HA
501. RA (ja)—break—NI MA HA
502. MA HA

Figure 91

503. I THA RA (ja)—break—PU MA HA
504. KA THA—break—RA MA HA
505. MA HE
506. MA—break—YA SA TA VA MA HA
507. RA (ja)—break—VA NA MA HA
508. ideo. for Raja—break—MA HA
509. MA HA
510. BHA YA SA TA VA MA HA
511. DA DHA—break—MA HA
512. SA VIM SA 12/SĀ TAVA MA HE
513. 12/SA MA HA
514. 13/SA MA HA
515. 2/12/SA MA HA
516. 12/RA (ja) MI HA
517. BHA SĀ SA MI HA
518. VA PPA MA MI HA
519. SU MI HA
520. RA (ja)—break—I MI HA
521. RA (ja)—break—SU MI HA
522. RA (ja)—break—SU MI HA
523. RA (ja)—break—SU TA VA MI HA
524. I VA—RA (ja)—break—VA SA SU MI HA
525. VA—BA BA—break—SA MI HA
526. RA (ja)—break—SA MI HA
527. VA RA—break—BHA YA SA VA NA MI HA
528. RA (ja)—break—MI HA
529. I KA THA PA VA NI SU SA VA MI HA
530. BHU DHA PA—break—MI HA
531. DA Det. for name MI HA
532. SA SA MI HE
533. SU SA MI HA
534. SA SĀ NA—4th sign ideo. for God
535. SĀ—ideo. for God—NA—break—UR
536. BA DHA MA—break—SU SĀ VA SA SO—ideo. for God—NA
537. RA (ja)—break—NĀ SU SĀ SO—ideo. for God—NA
538. RA (ja)—break—SU SĀ SA PU—SO ideo. for God—NA
539. RA (ja)—DA—RA—RA (ja)—break—SO—ideo. for God—NA

540. RA NA SĀ SO—ideo. for God—NA
541. VA RA—break—SO ideo. for God—NA
542. ideo.—God—break—SO—ideo.—God—NA—ideo.—God—break—PU NA
543. RA (ja)—break—SA—ideo.—for God—NA ideo.—God—break—PU NA DHA PA PAVANA
544. RA SA—break—VA SĀ SO—ideo. God
545. RA (ja)—break—NU PU YA SA SĀ SO ideo. God—NA
546. SO—ideo.—God—NA KA VA
547. SO—ideo. God—NA
548. 12/SO—ideo. God—NA
549. 13/SO—ideo. God—NE
550. 12/VA SO—ideo. God—God—SA
551. 14/RA (ja) SA KA
552. 13/RA (ja) SE
553. BA BA/SA(RA[ja])NE
554. 13/VA SO O
555. YE NA
556. RA NA—break—YE NA
557. ideo. city—break—YE NA R SI
558. ideo. for storm God—MA—break—YE NA
559. VA NU YE NA
560. ideo. city YE NA
561. RA (ja)—break—YE—ideo. War God Baba—NA
562. VA NA SA SA SA—or VA NA—10-10-10
563. VA NA
564. VA NA
565. RA NA—RA (ja)—break—VA NA
566. VA NA

Figure 92

567. 13/BA BA NI
568. BA BA NA
569. VA ideo. for city—NA
570. RA (ja)—break—NI VA—ideo. for storm God—NA
571. 12/BA BA VA NE
572. 13/VA NA

573. BA BA NA (or TA VA—break—VA NA)
574. SA VA—ideo. for city—NA
575. RA/14/BA BA NE
576. BA BA NA
577. RA (ja)—break—SĀ VA NA
578. VA—ideo. God—NA
579. RA (ja)—break—NI VA NA
580. RA (ja)—break—NA VA—break—ideo. God—NA
581. VA ideo. storm God—Det. for name NA
582. VA NA VA Abbr. for SARANA VA RA NA
583. VA NA
584. VA NA NI I RA (ja)—break—VA
585. VA NI SA Abbr. for SUVARNA VA ideo. country VA NA (or phon. Value SA)
586. VA/VA NA ideo. for city
587. RA (ja) DHA MA—break—SU SA SĀ VA NA
588. RA (ja)—break—SĀ VA NA
589. ideo. for country—SĀ VA NA
590. BHA VA SA VA NA
591. 2/YA VI VA ideo. city/ideo. for God—break—SĀ VA NA
592. 3/ideo. for city—MA SA/RA (ja)—braek—I SĀ VA NE
593. ideo. for city—DHA SA/RA (ja)—break—I SĀ VA NE
594. 13/ideo. for country TA PU SĀ VA NA
595. 3/14/SĀ VA NE
596. 13/SA VA NE
597. SA/14/SA VA—ideo. for God—NA
598. DHA NA/SĀ VA NE
599. 13/SA VA ideo. God—NA
600. VA NA—break—SU PAVAKA
601. 3/13/VA NE
602. ideo city—SA VA NA
603. SA Det. for name/ideo. for God—VA NA (or SA VA NA) SA being distorted)
604. VA NA—break—PA RA (abbr.) NA
605. VA NA
606. 12/BA BA NE
607. VA NA
608. PU VA PA—monogram VARA—NA (or VARA PÙVAPA NA)
609. RA SĀ VI JA—break—VA TA VA SĀ SA PA VA NA
610. SA VA SA SĀ PA VA NA
611. RA (ja)—break—NI PA VA NA
612. BHA TA VA PA VA NA
613. VA PA VA DHA ideo. for BA BA—break—SA PA VA NA

614. RA (ja) SA NA PA VA NA
615. RA (ja)—break—KA VA—monogram KAVANA—PA VA NA
616. TA VA RA (monogram)—break—PA VA NA
617. PA VA NE Det. for name
618. RA—KA VA NA PA VA NA Det. for name (or KAVA RA NA PA VA NA)
619. RA (ja)—break—SA PA VA NA
620. PA VA NA
621. VA SA SĀ VA PA VA NA (or BA BA SA SĀ PA VA NA)
622. ideo. god repeated Thrice SA SA SA or 10—10—10—PA VA NA
623. RA (ja)—break—SA PA VA NA
624. RA (ja) PA VA NA
625. SA BHA MA HA/SA PA VA NA
626. RA RA ideo. God/PA VA NA
627. RA RA ideo. God/13/VA PA VA NA
628. RA RA ideo. God/monogram PA VA—PA VA NA
629. PA VA NE
630. PA VA NI—RA NA (monogram)

Figure 93

631. PA VA NA I MA
632. VI NA—break—PA VA NA SU
633. MA MA MA PAVA/RA/...VA NA/...KA KA
634. RA (ja)—break—ideo. for BA BA—PA VA NA
635. SYO NA PA VA NA
636. SYO NA PA VA NA
637. ideo. for Temple—JE PU PA VA NA
638. JE PU PA VA NA
639. VA—break-JE PU—PA VA NA
640. TA—SA—VA RA—PA VA NA
641. RA (ja)—break—SĀ PU NA/PA VA NA
642. JE PU—PA VA NE
643. JE PU—PA VA NE
644. RA (ja)—break—JE PU—PAVANE
645. DA TA RA (ja)/SO NA—PA VA NE
646. VA PA VA PAVANA (or VA PA VA NA PAVANA)
647. RA RA ideo. city—NA—break—JE PU—PAVANA
648. HA PA VA KA PA VA NA
649. I—PA VA NA

650. RA RA (ja)—break—VA PA VA NA
651. Ideo. War God Baba—PA VA NA
652. I—PA VA NA
653. RA (ja)—break—ideo. War God Baba—PA VA NA
654. PU PA VA NA
655. SA PA VA NA YA YA RA NA (or PA VA NA, YA YA, SA RA NA)
656. ideo. God—break—JE PU PA VA NA
657. SO—PA VA NA
658. I- PA VA NA
659. SA NA—I PA VA NA
660. VA NI SĀ VA—PA VA NA
661. JE PU (PA VA NA) NE (or JE PU NE, PA VA NA)
662. ISHTARA—RANA—PA VA NE
663. I TA—PA VA NA
664. VA RA--break—PA VA NA VA NA
665. ideo. God—PA VA NA
666. PA VA NA
667. ideo. city—VA—PA VA NA
668. RA RA (ja) ideo. War God Baba—PA VA NA
669. MA MA MA MA PA VA NA
670. ideo. God SA—break—PA VA NA—E—PA VA
671. 13/THA THA PA VA NA
672. JE PU—PA VA NA
673. KA VA RA/JE PU PA VA NE
674. 12/YA—ideo. God—PU—PA VA NA (or YA PA VA PA VA NA)
675. 13/JA PA VA NE
676. 13/JA PA VA NE
677. 12/HA NA abbr. PA VA NA
678. RA (ja)—break—I DA/PA VA NA—SA KE
679. 12/SYO NA—PA VA NE
680. 14/PA VA NE
681. 12/PA VA NA SYO NA—break—RA (ja)
682. VI M SA/13/SYO NA PA VA NE
683. 14/SO NA—PA VA NA
684. 13/SO NA PA VA NE
685. DA TA—RA (ja)/SO NA—PA VA NE
686. RA (ja)/PA VA NA
687. 12/VA—PA VA NE
688. 12/VA PA VA NA
689. SA/PA VA NA
690. SA—break—PA VA NE

691. 12/YA YA PA VA NE
692. 13/VA—ideo. storm god—PA VA NE
693. VA RA ideo. God/PA VA NA—VA NE
694. 14/PA VA NA VA NE

Figure 94

695. VA SA TA VA PU VA PA NA
696. TA VA SA—break—VA PA NA
697. I PA NA Det. for name
698. I PA NA
699. I PA NA
700. ideo. city. I PA NA
701. VA I PA NA
702. RA (ja)—break—VA PA NA
703. PU PA E MH PA PA NA
704. RA (ja)—break—PU VA PA NA
705. JA VA VA PA NA
706. PU BHA YA SA PA PA NA
707. RA (ja)—break—BHA SA PA PA NA
708. SA VA PA NE
709. U MA BA BA/VA PA NE
710. VA PA NA
711. RA (ja)—break—VA SA SA PA NA
712. PA NA
713. 12/VA PA NA
714. 13/VA PA NA
715. 13/VA PA NA
716. 14/SO PA NA
717. RA (ja) NI BA BA E MA PA NA
718. PA NE
719. ideo. Storm God—PA MA NI PU NA
720. 13/SA VA NI PU NA
721. RA (ja)—break—PU SĀ JE PU—ideo. God—NA
722. PU NA—break—PU NA
723. PU NE sacred tree—ideo. God
724. RA—SA PU NA
725. 3/DHA PU NA
726. BHA NA

727. MA BHA VA – break—SA BHA NA
728. VA NU PA – break—SA BHA NA
729. VA NI YA SA BHA NA
730. SO NA SA BHA NA
731. PA – Det. for name – NA SA BHA NA
732. VI NA—break – SĀ BHA NA
733. RA (ja) – break – SA BHA NA
734. SU BHA NA
735. SU BHA NA
736. Ideo. Storm God – MA NA SU TSA NĀ BHA NA
737. VA TSA NĀ TSA NĀ BHA NA
738. VA PA – break – TSA NA BHA NA VA NA RA (ja)
739. VA PAVA – break – TSA NU BHA NA
740. YA YA SA RA (ja) – break – VA SA BHA – ideo. God—NA
741. PA SA BHA – break—SU VA – ideo. city – NA
742. VA PA RA (ja)—break – SU BHA NA
743. NA – break – SA SA BHA (or SA SA BHA NA)
744. Ideo. God – DA NU BHA NA
745. BA – ideo. for BABA – VA SA SU BHA NA MU MA
746. TSA NA BHA NA
747. RA VA NI PU BHA NA ideo. Country
748. SA VIM SA 13/NA MA MA PU BHA NA
749. THA THA NA
750. RA (ja) – break – THA THA NA – Det. for name
751. Ideo. for God—break—THA THA ideo. for BA BA – NA
752. THA THI – abbr.
753. 2/TA VE
754. RA (ja) – break – DHA—NA Det. for name—as well as phon. value for NA
755. ME VA - break – DHA NA (or MA YA VA—break – DHA NA
756. RA (ja)—break—JA VA NA/VA MA MA DA DHA NA
757. DHA – RA (ja)—NA (or RA (ja) DHA NA)
758. BA BA DHA NE BA BA

Figure 95

759. 13/BA BA DHA NE
760. Ideo. for Temple – ideo. Storm God – DHA DA DHA
761. DA DHA
762. VA RA BA BA RA SĀ DA DHA (=Excellent Babra God DA dha). or VARA VATRA SĀ DA DHA=Excellent Vaka Sā Dadha

763. TA VA DA NA
764. VA – break – DA NA RA KA (=DA NA VA R KA)
765. 13/DA – RA (ja) – NE (=Raja Dana)
766. DHA NA
767. PU YA SA RA DHA
768. RA (ja) – break—RA DHA
769. PU BHA SA VARA VA NA RA DHA
770. MA – break – SU VA SĀ RA DHA SA VA SA
771. RA DHA
772. RA (ja) – break – PU VA R MA
773. VA R MA
774. RA (ja) RU MA
775. RĀ – ideo. God – MA
776. MA PA BA BA DHA MA – break – RA MA – PA VA
777. RA (ja) – break – ideo. Storm God E NA
778. RA (ja) – break – I E NA
779. E NA
780. VA TSA RĀ JA RA (ja)—break
781. NU SA RĀ JA
782. VA TSA RĀ JA
783. Ideo. storm God – TSA RA JA
784. Ideo. – storm God – RA RA VA DHA MA – Det. for name – RA JE
785. VA—ideo. storm God – TSA
786. TSA RA (ja) – JA
787. VA – ideo. storm God – JA
788. PA NI VA JA
789. 14/JA RA Det. for name—PAVA
790. SA PA MA
791. BHA YA SA PA MA
792. PU SA PA MA
793. PA VA NU SĀ SA PA MA
794. RA (ja)– break – PU SĀ PA MA
795. RA (ja) – break – SĀ RA RA – ideo. God—NA ideo. storm God—PAMA
(or RA (ja) SĀ RANA RANA PA MA – ideo. storm God)
796. RA (ja) – break – PA MA ideo. for country Vana
797. YA SA PA MA
798. VU (or TA VA) – ideo. God – NA YA SA PA MA
799. ideo. Raja – I NI PA MA
800. SA TA VA PA MA BA BA MA
801. DHA RA (ja) – break—SU TA VA abbr. PA MA SU NA
802. SA VI – break – PA MA

803. Ideo. War God—BABA
804. JE PU PAVA NA BA BA ideo. War God – BABA
805. Ideo. storm God (NI) – NA ideo. War God BA BA
806. SĀ ideo. War God – BA BA
807. RA (ja) – break – ideo. War—God BA BA
808. Ideo. War God – BA BA
809. NA ideo. War God—BA BA
810. UMA BA BA
811. BA BA – break—VA RA—ideo. storm God—RI
812. BA – break—KA VA MA
813. RA NA I SU BA BA
814. YA – ideo. God – NA—Det. for name – OYE MA BA BA NA
815. U MA Det. for name BA BA
816. VA TSA SU BA BA
817. VA PA PA VA PAVA BA BA
818. SA VA VA NA SU BA BA
819. Ideo. War God – BA BA
820. BA BA NU E
821. Ideo. storm God – SA BA BA – ideo. God – VA
822. I SU BA BA

Figure 96

823. R I VA—RA JA—abbr. – ideo. War God – BA BA
824. E LO TA VA BA BA
825. NU SA Det. for name JA – break – BA BA
826. U MA BA BA
827. SU ideo. storm God – VA BA BA PA VA
828. BA BA NI SYO – ideo. God – NA
829. O BA BA NA NA
830. BA BA VA NA
831. VA NA/JE NA BA BA RA
832. RA (ja) – beark – VA ideo. country NA) or – RA (ja) – break—BA BA NA)
833. BA NĀ SU RA NA
834. VA NA – PA VA KA
835. RA NA—break – VA NA Det. for name
836. VA MA – break—VA NA
837. RA (ja)—break—PU VA – ideo. for country – NA (or RA (ja)—break – PU VA VA – NA)

838. 14/VA—ideo. for country NA (or—14/BA BA NA)
839. RA (ja)—ideo. for city—break—JA NA NA
840. JA NA NA
841. NĀ JA NA NA
842. RA (ja)—break—JA NA NA
843. RA (ja)—break—JA TA NA (or YA TA NA)
844. RA RA—ideo. God/YA TA NE
845. I TA NA
846. RA (ja)—break—JA KA VA NA (or KAVA JA NA)
847. RA ideo. God JA KA VA NA (or RAJA KAVA JA NA)
848. SA NI JA NA
849. RA JA—break—JA NA KA
850. RA (ja)—break—NA SĀ TYA VYA
851. RA (ja) RA SA KA JA DA VA PA (or SA KA DVI PA RA JA) Distortion Corrected
852. RA E—Ideo. War God—E NA
853. E—Ideo. War God—E NA
854. RA (ja)—ideo. city—ideo. War God—E NA
855. TA SO BHA—break—E—ideo. War God—E NA
856. Ideo. War God—E NA RA JA NA
857. KA RA—break—ideo. War God—E NA
858. Ideo. Temple—RA TSA ENA Det. for name
859. Ideo. for BA BA E NA
860. 14/E—ideo. War God—E NA
861. 12/YA—ideo. God RA (ja)—E
862. YA NA
863. YA—ideo. God—NA—Det. for name—E
864. RA (ja)—break—TSA NU BHA YA—ideo. God—NA
865. DA TA—break—YA—ideo. God—NA
866. Ideo. War God—RA I/PA PA VA NA YA—ideo. God—NA
867. YA ideo. God E/YA ideo. storm God NE
868. RA (ja)—break—YA YA NA ideo. for country
869. RA NI YA YA PA VA
870. VA YA YA SA VU SYO PA VA (or YA YA VA SA VU SYO PA VA)
871. RA (ja)—break—THA YA YA (or God THA THA NA God YA YA)
872. RA (ja)—break—SYO YA—ideo. God—NA
873. RA (ja)—break—YA—ideo. God—NA
874. RA (ja)—break—BA BA YA NA—5th sign ideo. God
875. RA (ja)—break—NI NA YA YA
876. PA RA (ja)—break—ideo. God—YA—ideo. God—NA
877. VA YA NA ideo. God

878. RA (ja) I—Det. for name – break—YA NA ideo. God
879. RA (ja)—break – SĀ YA NA ideo. God – Det. for name
880. VA RA ideo. storm God—YA NA ideo. God
881. YA NE ideo. God
882. NĀ VA YA NA ideo. God – RARA
883. YA YA PA VA
884. RA (ja)—break – NA YA NA ideo. God
885. RA (ja) – break—NU YA – ideo. God – NA
886. O SYO/SĀ YA NA ideo. God (words enclosed by vertical it works for decoration)

Figure 97

887. NI RA NA RA (ja) RA KA VA RA NA ideo. God (or NI RA NA RA JA KA VA RA RA NA
RA (Ja) VA NA – PA NA
PU BHA SYO NA PAVA IU IO IO E
888. RA (ja) – break – SO RA NA YA YA
889. I/YA YA NA
890. SA BA KA – break – RA (ja) RAVA
891. SA BA KA
892. ...break – VA SA SU BA KA
893. ideo. storm God – RA KA VA RA (ja) – break SA – SA BA KA
894. THA – RA (ja) – break – BHA NA SA BA KA
895. RA (ja) – break – BHA SA BA KA
896. SA SA (I VA RA) NI PU SĀ VA SA BA KA
897. ideo. God – break – SA BA KA
898. NA SA RA SA BA KA ideo. for country
899. 12/SA SA VA KA
900. ideo. city – VA KA
901. BA BA – break – RA (ja) – break – BA BA KA
902. RA (ja) – break – THA SA VA KA
903. RA (ja) – break – (VA NU—enclosed to give special significance to the name) – BA KA (RAJA – VA NA VA KA)
904. ideo. God. RA (ja) – break—VAKA
905. ideo. storm God – RA RA KA VA RA (ja) – break – SU SA TA VA VA NA ideo. city
906. YA SA VA R KA
907. YA SA VA R KA

908. BHA DHA PA RA (ja) – break – VA SA TA VA KA
909. ideo. for BABA RA VA SA SĀ TA VA KA
910. YA SA TA VA KA
911. RA (ja) – break – YA SA TA VA KA
912. PU YA SA TA VA KA
913. KA SA – break – TA VA KA
914. PU TA VA KA
915. DHI – break – PU BHA SU TA VA KA
916. PU SU SA TA VA KA
917. NA RA (ja) – break – SA TA VA KA
918. SA TA VA KE
919. RA (ja) – break – VA PU SA TA VA KA
920. VA DHRA—break—SĀ SA TA VA KA
921. I TA VA KA
922. VA RA PU TA VA KA
923. TA VA KA—break—I—PA VA NA
924. PU – RA (ja)—break—TA VA KA (or RA (ja) PU TA VA KA
925. VA PA VA—break—TA VA KA
926. VA BA BA SU SA TA VA PU SA VA R NA abbr.
927. SU SĀ TA VA KA
928. PU SA SĀ TA VA KA
929. RA (ja)—break—SA SU TA VA KA
930. RA (ja)—break—SU SA SA TA VA KA
931. RA (ja)—break—TA VA KA
932. BA BA ideo. for BA BA—break—BA SA VA SA TA VA KA
933. KA VA NA—break—TA VA KA
934. TA VA KA
935. PU YA SA SA NA TA VA KA VA NA PA VA KA
936. RA (ja)—break—PU SA SA TA VA KA
937. VA MA
938. RA (ja)—break—VA MA
939. RA (ja) I NA VA RA VA MA THA
940. RA (ja)—break—VA MA
941. RA (ja)—break—E MA
942. RA (ja) NA E MA
943. SA VA RA VA E MA (or VA RA SA VA E MA)
944. VI NA E MA
945. SU NA—abbr.—TA VA E MA
946. ideo. War God KA E MA
947. VA I SI NA monogram – RA (ja)—break—I SA SU NA E MA
948. – SA SA E MA

Figure 98

949. RA (ja) SA VA SĀ TA VA E MA
950. SA TA JA—ideo. God—NA E MA
951. ideo. God—break—PU SU RA NA E MA
952. SA—ideo. for BA BA—break—PU SU TA VA BA BA E MA
953. RA (ja)—break—PU SU SA MI HA E MA
954. BHA SĀ PA E MA
955. SA KA VA—KA VA NA—monogram—ideo. War God—KA VA MA
956. PU SĀ SA TA VA (KA VA NA) MA
957. ?—break—KA VA (KA VA NA monogram) NA
958. RA (ja)—break—KA VA (KA VA NA monogram) NA
959. VA RA (ja)—break—PU BHA SA TA VA KA VA (KA VA NA) NA
960. RA (ja)—break—BHA SĀ TA VA KA VA (KA VA (KA VA NA) NA
961. RA (ja)—break—TA VA KA VA (KA VA NA) NA
962. RA SA SA—break—PU TA VA KA VA (KA VA NA) NA
963. VA NA RA (ja)—break—SĀ NA KA VA (KA VA NA) NA
964. RI VA PA—break—SĀ KA VA (KA VA NA) NA
965. NU VA SA—break—KA VA (KA VA NA) NA
966. I VA RA (ja)—break—BHA (KAVA NA) NA
967. ideo. for Temple—KA VA NA RA (ja)
968. RA (ja)—break—VA PA (KAVANA) NA
969. SA RA VA PA NI (KA VA NA) ideo. God NA
970. RA (ja)—break—VA SA SĀ (KA VA NA) NA
971. NA NA PAVA KA VA NA
972. RA (ja)—break—KA VA (KA VA NA) NA
973. KA VA (KA VA NA) VA RA NA
974. VA RA SĀ PU (KA VA NA) NA Det. for name
975. RA (ja) I YA—break—SA (KAVA NA) NA
976. SA/KA VA NA YA YA VA (or SA/KA VA NA YA YA VA)
977. NA (SA VA) SA VA RA (ja)/SA PU (KA VA NA) NE
978. KA VA (KA VA NA) Det. for name—VA RA NA

List II

979. ideo. storm God. TAVA
980. TA ideo. storm God RA
981. JA RA (ja) RA (or RA (ja) JA RA)
982. VI RA (ja) RA (or RA (ja) VI RA)

983. ideo. storm God – TSA VI JA
984. ideo. God – VI JA RA (ja)
985. RA VA NI YA ideo. God – RA (ja) JA
986. RA (ja)--break – VA JA (or RA (ja) VA VYA)
987. RA (ja) – break – SI SU JA NA
988. ideo. storm God – RA (ja) RA MA JA VA SE
989. BHA SA SA RA (ja) (or BHA SA SA – ideo. God)
990. RA (ja) or ideo. for God--break – I TSA (STA) URA PAVA monogram (or king ISHTOR) or goddress ISHTAR
991. I STA U RA
992. RA (ja) I VA YA – break – I VA NA PA VA
993. RA (ja) – break – I MMA ideo for country
994. ideo. God break – SA SĀ RA YA YA
995. ideo. God break – MA MMA
996. I NA VA RA (ja) (or INAVA ideo. God)
997. ideo. God – break – I NI VA
998. BHU THA YA ideo. for BA BA
999. BHU THA BHU THA NA
1000. RA (ja) – break – VA R SA (or king VRISA)
1001. VA RA (ja) RA SA (or RAJA VRISA)
1002. PU NA VAM
1003. RA (ja) – break – SA VA SA PU NA
1004. RA (ja)—break – SU PU NA
1005. PU NE sacred tree. ideo. for God
1006 PU NA
1007. SU PU NA
1008. ideo. God – break – SA PU NA

Figure 99

1009. NU RA (ja) VI (or RAJA NUVI)
1010. NU PI
1011. DU PA – break – SĀ YA YA RA NA (or DU PA YA YA SĀ RA NA) (or DUPA SĀRA YYANA)
1012. SU YA YA RA NA (or SU RA YYANA, or YA YA SU RA NA)
1013. RA (ja)--break – YA YA RA NA
1014. PU YA SA VA RA SO – ideo. God – DA MA NA
1015. DA MA NA
1016. SU DA MA NA

1017. MA NA
1018. SO RA MA NA
1019. SO MA NA
1020. ideo. for BA BA – VA SA – break – SA MU MA NA
1021. RA (ja) – break – TSA MA NA KHA TRA
1022. RA (ja) – break – MA NA
1023. SA VARA HA
1024. VA RA HA
1025. RA (ja) – break – TSA E KA
1026. RA (ja) – break – TSA EKA
1027. RA (ja) RA NA I TSA EKA
1028. 12/TSA E KE
1029. SA/TSA E KA
1030. I TSA E KA
1031. 12/VA RU NA
1032. VA RU NE
1033. SĀ RA NA
1034. RA (ja) – break – SA TSA V YA
1035. DI VA TSA PA
1036. RA (ja) – break – RA JA TSA PA
1037. BA BA DHA KA SA DA JA PA RA (ja)
1038. NI BA BA TSA PA (or BA BA NI TSA PA)
1039. JA BA KA DA PA RA (ja)
1040. VA RA PA VA DA TSA PA (or VA RA PA VA DAI TYA PA) if Sanskritised
1041. RA (ja) BA BA DHA TSA PE (or RAJA BA BA DAI TYA PE)
1042. KA VA – break – VA RA TSA PA
1043. KA VA SA
1044. KA VA VA SA (or KA YA VA SA)
1045. KA – ideo. storm God – RA (ja) VA (or RA (ja)– ideo. storm god – KA VA)
1046. RA (ja) – break – PA VA
1047. PA VI
1048. ideo. for Temple – ideo. storm God – BA BA RA
1049. SA SA PA VA
1050. PAVA NA VA SA SA PAVAKA
1051. PAR NA abbr. NI PA VA RA
1052. PAR NA abbr. NA
1053. VA NA/RA NA
1054. RA RA (ja) – break...
1055. RA RA NA
1056. RA RA NA
1057. ideo – god – break – RA SA NA

1058. VA SA NA VA RA
1059. RA—ideo. storm god—RA (ja) BA BA BHU PA—TSA (name enclosed by Sun ideograms suggesting protection by Sun God)
1060. BHU DHA DA L VA (or BHU PA DHA LVA)
1061. PU MU MA
1062. VA PA NA NI PU SU MU MA
1063. MU MA
1064. MU ME
1065. BA BHU DHA PA RĀ RYA
1066. SĀ SA VA KA
1067. JA Det. for name—NA—break—I SĀ KA
1068. NA KA
1069. I NA KA
1070. KA NA...
1071. DA—break—KA KA VA NA
1072. NA PA—break--KA KA NA
1073. RA (ja)—break—KA KA NA
1074. KA KA NA

Figure 100

1075. RA—ideo. city NA—break—JE PU PAVANA
1076. MA RU NA ideo. country
1077. RA (ja) I RA NA
1078. ideo. storm God—I MA
1079. RA (ja)—break—I RA NA
1080. KA SA MA
1081. RA TA NU SA—break—KA SA MA
1082. PA VA VA KA SA MA
1083. TA PE RA (ja)
1084. DA PU SA Det. for name
1085. 12/PA DE
1086. PU DE
1087. 12/PU DE
1088. RA (ja) ideo. city/PU DA
1089. RA (ja) NA RA I
1090. RA RA (ja)—break—NA RA MA
1091. NI RA (ja) RA JA RA (ja)
1092. NA RA (ja)—break—SU PAVA (or RA (ja) break SU NA PAVA)

1093. VA RA abbr. NA RA
1094. RI VA YA
1095. RA SE
1096. ideo. god—TA SA NA
1097. TA VA SA
1098. RA (ja)—break—TU MA PA
1099. MA KE
1100. U PA—break—PU—ideo. storm god—RA
1101. RA (ja) TAVA break DA VA
1102. TA VA MA
1103. TA VA MA—break—SA VA
1104. TA VA SA
1105. BA BA
1106. TSA TA NA
1107. VA DA NU
1108. I PU RA
1109. PI TA VA VA NA
1110. VA NA RA NA
1111. SĀ VA PA NE
1112. VA PA NA
1113. ...I SA.../PANA...
1114. I VA MA NA (abbr.)
1115. RA (ja)—break NA DA MA NA (abbr.)
1116. RA (ja)—break—SA PU NA abbr. (or the abbr. may be any one of the following PU SA SAKA, PU BA NA, PU VA SANA, PU DAMANA
1117. SA PU NE abbr.
1118. SA SA PU abbr.
1119. ideo. RA (ja) MA VA SA PU abbr.
1120. RA (ja)—break—SU SA KA—ideo. God - break—RI NA I Det. for name KHA PAVANA abbr.
1121. RA TA PA MU PAVANA abbr.
1122. RA (ja)—ideo. city break—SĀ RA NA abbr.
1123. RA (ja)—break—SĀ SA abbr.
1124. RA (ja)—break—I SĀ...abbr. E
1125. RA (ja)—break—I NĀ SĀ...abbr.
1126. ideo. for BA BA RA SA...abbr. PA RA (ja)
1127. RA (ja)—break—BHA TA VA SĀ SU...abbr.
1128. BA BA NA SU abbr. DHA VA
1129. TA MA—break—SU...
1130. 13/SU...abbr....E
1131. 14/SA... abbr....E

1132. SA abbr. ...
1133. RA (ja) – break – NĀ BHA VA SA ... abbr.
1134. BABA – break – VA SA – SA abbr.
1135. ... NI I YA – SA ... abbr.
1136. VA NA – break – VA – SA abbr.
1137. PU VA – SA ... abbr.
1138. I PA – break VA – SA ... abbr.
1139. RA MA – break – BHA SA VA – SA ... abbr.

Figure 101

1140. RA (ja) – break – SA PU – SA ... abbr.
1141. SA ... abbr. ideo. for country (phon – value VA)
1142. VA – ideo – storm god – SA ... abbr.
1143. ideo. God MA – break – VA – SA abbr.
1144. SYO NA THA – SĀ ... abbr.
1145. YA – SA ... abbr.
1146. ideo. storm God—RA VI – SA ... abbr.
1147. RA (ja) – break – VA SA SA TA VA KA
1148. MA – break – SA TA VA KA
1149. MA – break – SU KA PA VA
1150. PA VE
1151. SU VA RU IVARA DHE
1152. NU DHE
1153. NU DE
1154. EE ideo. God – SA
1155. NU YA E
1156. UR – break – E E
1157. SA VA – RA (ja) – E E
1158. BA BA—RA (ja) – E E
1159. RA (ja) MA BHE SA RA JA E E (or UR MABHESA UR EE)
1160. VA PA VA E SA E (or VA SA PA VA E E)
1161. VA RA TA VA MA E E
1162. PA MA ... abbr.
1163. PA ME
1164. ideo. storm God ... PA MA
1165. PA MA
1166. PA MA PA VA JA RA (ja)
1167. PA MA PAVA—break – TA VA MA

1168. NU VA RA (ja)
1169. RA (ja) – break – NA VA
1170. RA (ja) – break—VA SA RA NA VA
1171. SA TAVA PA MA VA IMA
1172. YA MA
1173. I MA
1174. MA HA
1175. MA HA
1176. RA (ja) – break—MA HA
1177. PU—ideo. storm God—RA VA RA
1178. MA – break—VA RA
1179. RA (ja) – break—KA VA E IVA (or KA YA E IVA)
1180. VA NI—break—TA VA ideo. storm god--RA I VA (or VANI, TAVA, RIVA)
1181. RA (ja) – break – I VA SA ideo. city
1182. RA (ja) Det. for name – RI VA (or RA NA RAIVA)
1183. 13/NA NA VA – ideo. God – MA
1184. NI/NI/NĀ
1185. I E NA NA
1186. NA NA
1187. NA NA/RA – ideo. God – NE
1188. NANA – ideo. God
1189. NA NA – break—SA
1190. – break – RA (ja) – NA NA
1191. RA (ja) – break – NI NNA
1192. Ra (ja) – break – Ā—ideo. God—NA Det. for name
1193. Ā NA
1194. PA NI VA Ā NA
1195. RA (ja)—break -NI Ā NA
1196. RA (ja)—break – SĀ JA VA NA
1197. —break – ideo. city – BA BA
1198. BA BHA—break—TSA PAVA
1199. E VA PĀ
1200. NA MA
1201. BH ARA/U
VA RA SAVA
1202. I DA PA
1203. I RA
1204. ideo. for Temple – VA PAVANA

Figure 102

1205. VA—PA VA NA
1206. TSA NA BHA—PA VA NA
1207. VA—PA VA NE
1208. PA VA NA–VARA—BA BA
1209. JA PU—PAVA NA
1210. PAVANA—VA JA
1211. PA VA NE
1212 DA MA NA JE PU—PAVANA
1213. ...SĀ–PAVA NA
1214. SA BHA MAHA/SA PA VA NA
1215. PA VA NA
1216. RA NA
1217. VA RA JA DA SA RA NA PAVA
1218. ... SA RA NA
1219. VI—break—PU–SU ... abbr. JA BA BA RA NA
1220. RA (ja)—break–O abbr. RA NA
1221. RA RA NA
1222. RA—ideo. God–ideo. God
1223. RA (ja)—break—VA RA NA
1224. RA NA
1225. VA RA NA
1226. ideo. storm God—RA –VA SA ... abbr.—break—SĀ RA NA
1227. 13/VA RU NE
1228. ideo. God RA NA
1229. RA (ja)—break–VA RU NA
1230. NA PU YA SA SA RA ideo. God
1231. ideo. for Temple 50. RA Det. for name
1232. JA KA VA NA SĀ ... (or KAVA JA NA SĀ ...)
1233. RA JA (2nd sign ideo. God) KA VA NA
1234. KA VA NA
1235. RA (ja)–break–KA VA NA
1236. RA NA KA VA (KA VA NA monogram) NA
1237. KA VA–break–VA RA–Det. for name
1238. KA VA (KAVANA monogram) VA RA NA
1239. THA SI
1240. THA NA
1241. THA Det. for name
1242. YANA THA
1243. YA SĀ SA BA BA SA RA (ja)

1244. 13/VA SA PA VA KE
1245. JA MA—break—SĀ KA
1246. SU SĀ KA
1247. SA KA
1248. VA NI SU SA SĀ KA
1249. RA (ja)—break—YA SA KA
1250. BA BA RA (ja)—break—SA NA (or RA (ja)—break—VA SANA)
1251. TSA NA NĀ BHA SU SA NA
1252. SU NA MU MA
1253. (KA VA) SU NA
1254. SV VAR NA (or VARA SU NA)
1255. RA (ja)—break—SU NA VA RA
1256. DHA RA (ja)—break—SU DHA (or RA (ja) SU DHA DHA)
1257. 12/SU ideo. God—NE
1258. RA (ja) SA SA—break—ideo. war God—VA
1259. VA SA HA
1260. RA (ja)—break—VA SA NA ideo. Sun God
1261. I SA Ā NA
1262. I SA NA ideo. God
1263. I SĀ—ideo. God—NA
1264. VA RA VI SĀ NA Det. for name
1265. VA KSHA E SA
1266. MA—break—SĀ NA VARA
1267. VA SA VA RA ...
1268. MA VA SAVA ...
1269. SA VA/THA SA
1270. RA (ja) PAVANA—break—VA SĀ—ideo. God—NA

Figure 103

1271. I SA RA RA (ja) VA SA
1272. SU RA—RA (ja)—break—VA SA VA SĀ NA
1273. RA (ja)—break—VA SA SE—ideo. God—NA
1274. RA (ja)—break—SĀ SA SA VA
1275. YA SA SA NA
1276. VA RA BABA abbr. ... RA (ja)—ideo. city—SA—break—SA SA NA
1277. RA RA (ja)—break—SA SA PI NA Det. for name
1278. RA—ideo. storm God—RA—PA VA—RA—break—YA SA NA—break—RA
1279. SU SA MA

1280. PU SU SA VA RA NA
1281. RA (ja)—break—SU SĀ SA NA
1282. VA RA—SU SA NA Det. for name
1283. ideo. storm God RA (ja)—break—SU SĀ NA Det. for name
1284. DHA NI SU SĀ PAVA
1285. RA (ja)—break—SU SA ideo. God—NA
1286. TA VA RA—break SU SI
1287. ideo. God—break—SU SĀ—SA abbr.
1288. SU SĀ VA
1289. I VA NU—break—SU SA ...
1290. SU SĀ—break—BA BA PA VA MA
1291. DHA PA RA
1292. DA PA RA
1293. TU MA RA
1294. I MA SO
1295. SA VA SA VA SA BA BA—break—SO DHA
1296. SO—ideo. God—NA
1297. RA (ja)—break—SO ideo.—God—NA
1298. RA (ja) VA SA RA PAVA
1299. PA VA
1300. I THA SA—RA (ja) RI (or RA (ja) I THA SA RI)
1301. RA (ja)—break—VA—ideo. storm God—TA SA NA
1302. RA (ja)—break—TA SA NA Det. for name
1303. TA SA NA
1304. SU SYO NA
1305. ... SA SYO NA
1306. NA NA SYO NA NA
1307. SYO NA, SU NA, MUMA
1308. SYO NO
1309. RA (ja)—break—SYO NA
1310. VA DA BHA—break—SYO NA
1311. RA (ja)—break—SYO PAVA
1312. ideo. God—break—SO NA
1313. RA (ja)—break—PI PA RA
1314. RA (ja)—break—LA RA
1315. RA VA
1316. DHI—break—IVA RA RA RA
1317. RA VA abbr....
1318. VA RA ideo. city
1319. VA RA—PA VA KA

1320. I PA RA RA (ja)
1321. MA RA (RA (ja))
1322. RA (ja)—break—BA BA PA VA
1323. BA BA NA (or I NA)
1324. O VA
1325. RA (ja)—break—VA SA SU DI NU NA
1326. NU NU VA UR
1327. I VA SYO ideo. God—break U R
1328. U R
1329. RA (ja) PA VA—break—U R
1330. TA MA PA
1331. RA (ja)—break—UMA
1332. RA (ja)—break—KA VA NI MA
1333. NI SA SA—break—KA VA MA
1334. PA PA VA DHA—break VAMA or (BA BA VA DHA VA MA)
1335. RA (ja)—break—I MA
1336. VI—break—VA MA

Figure 104

1337. I VA RA
1338. DU MI
1339. I VA MA
1340. VA NA—break—VA MA
1341. VA MA
1342. VA MA
1343. VA MA
1344. RA (ja)—break—VA MA
1345. RA (ja)—break—VAMA
1346. VA ideo. God—MA
1347. RA (ja)—BA BA—(or I)
1348. RA (ja)—break--VA NA BA BA (distortion corrected)
1349. RA (ja) BA BA E NA Det for name (distortion corrected)
1350. RA (ja) BA BA YA RA
1351. RA SA RA (ja)—BA BA
1352. RA (ja) BA BA E NA Det. for name (distortion corrected)
1353. NU VA NA
1354. JA VA NA
1355. JA VA NA

1356. JA VA NA
1357. YA YA SA VA NA PA VA
1358. YA YA PA VA
1359. RA (ja)—break—VA SA NA MU VA YA YA
1360. VA RA—break—YA YA BA BA
1361. YA YA NA
1362. RA (ja)—break—YA VA NA
1363. 13/ideo. God—break—SA VA NA
1364. 12/PU SU SA TA VA NE
1365. VA NE PA SA
1366. VA NA
1367. RA VA NI
1368. RA NE Det. for name
1369. MA—break—ideo. God—NA (or MA—break—RA NA
1370. NU E—break—E NA
1371. VA NU—break—E NA
1372. Ideo. God—break—SA VA NA
1373. VA ideo. God—MA—break—ideo. God—NA (or VANA/MA—break—RA NA)
1374. VA NE
1375. VA NA PA VA KA
1376. VA NA PA VA
1377. RA (ja)—break—SA I VA (ideo. BA BA) NA (or RAJA SANA I VA BABA)
1378. VA RA VA SA NA
1379. E NA
1380. RA (ja)—break—E NA
1381. I VA NA
1382. RA (ja) ideo. storm God—(BA BA) NA ideo. God—IMMA
1383. I MA—break—O VA NA
1384. TA—break—SA VA RA VA NA
1385. RA (ja)—break—BA BA abbr. PA NA
1386. RA (ja)—break—E NA ideo. war God
1387. RA (ja)—break—E PA VA
1388. SA—SA—abbr. VA NA
1389. RA—NI VA NA
1390. I VA NA PA VA
1391. RA (ja)—break—NU VA NA
1392. 14/VA NA PA VA NA
1393. PU SA VA NA
1394. VA NA VA
1395. RA (ja)—break—VA RA VA NA
1396. BA BA JA—break—TA VA

1397. RA (ja)—break—BHA YA SA BA BA NA NA
1398. SA TA PA VA JA SA VA SA
1399. BA BA ideo. city
1400. SA E (ISINA-monogram)
1401. I S I NA E RA RA (ja) ideo. city—RA
1402. VA I SI NA—break—SA BA BA DHA

Figure 105

1403. VA PA—break—I JA NU NA
1404. DI NA NA (or DI NNA)
1405. MA abbr. RA SA DI NNA
1406. PA PA SU NI DI NNA BA BA VA NA (distortion corrected)
1407. PA RA (ja)—break—SA TA BA BA MA
1408. BA BA DHA BU DHA—break—BA BA VAMA
1409. DHA PA BA BA RA
1410. RA JA NU BA BA RA (ja)—break—I
1411. U R VA DA PA BA BA DHA DHA NA
1412. BA BA RA
1413. PU MA BA BA
1414. RA VA E NA
1415. U MA BA BA
1416. SU ideo. storm God—VA BA BA E PA VA
1417. RA (ja)—break—U MA ideo. storm God BA BA
1418. BA BA—break—I E RA (ja) BA BA NA Det for name. (or BA BA—I YA RA (ja) I NA Det. for name)
1419. VA RA (ja)—break—VA I RA VA KA (or RA (ja) BA BA I RA VA KA)
1420. PU BA BA (or PA VA BA BA)
1421. BA BA MA
1422. VA NA PA
1423. PA—abbr.—NA
1424. 13/PA RA
1425. SA TA SA KA S NI
1426. VA SA SA MA
1427. PA RA PA VA
1428. PU—PA VA KA
1429. ideo. city—break—PA NA
1430. RA (ja)—break—TSA MA
1431. SA NA Det. for name TSA RA (ja)

1432. PA SU BH E
1433. I DHA VA SA SA (or I DHA VA SSA)
1434. PU PU E
1435. RA RA (ja)—break—RA BA BA (ideo. God. BA BA)
1436. I T A SU
1437. NA KA VA RA
1438. JA NA RA NE
1439. VI SA ideo. for BA BA
1440. MA BHA NA
1441. I RA PA RA
1442. 13/SA TA SA
1443. RA (ja)—break---NA BA TA (SA VA)
1444. RA SA DA LE
1445. 13/YA YA PA PAVA
1446. 13/BHA SĀ SA VA
1447. 12/RA (ja) TA NA RA
1448. SA SA JA
1449. 13/BA BA RA (or 13/I R A)
1450. RA (ja)—break—KHA S NA
1451. 13/SA TA SA
1452. 12/—SA NE
1453. VA/KA NI SA NA
1454. VA RA ideo. God—PA VA NA VA NE
1455. RA (ja) TA/I KA
1456. 12/SĀ PA VA
1457. 13/SĀ PA VA E
1458. 13/SA abbr. E
1459. DA/S O PA VA NA (or DA/SO NA PAVANA)
1460. 14/PA RA BA BA
1461. DA NA SA PA VA
1462. VA RA SA I MA
1463. NA/YA SA YA (or YA YA SA NA)
1464. 12/SA E
1465. SA SA KA SA
1466. VA DH RA
1467. 2/RA NA MA NA/12
1468. PA VA VA DA

Figure 106

1469. ideo. city BA BA E (or BA BE)
1470. MU JA R RA—break—RA RA (ja) TA VA RA
1471. ideo. God—VA—RA (ja)
1472. I THI MA
1473. I JE HA—break—MA
1474. YA YA VA...
1475. NA I BA BA E
1476. KA YA VA—break—BHA YA
1477. RA (ja)—break—NA TSA PI
1478. I TSA BHA ideo. for country
1479. RA (ja)—break—SA TA DHA VI VA or (SA TA DHAN VI VA)
1480. RA (ja)—break—PU SA KA RA M
1481. NA TA SA VA—break—PA VA
1482. VA SA RA MA NA SĀ or (RA (ja) VA SA MA NA SĀ)
1483. RA (ja) BA BA E
1484. DHA VA R MA
1485. RA (ja)—break—NI PU
1486. RA (ja)—break—SA SA...
1487. VA SA PU VA PA (NA)
1488. YA SA ideo. storm God—PA
1489. SU PA RA VA (or RAJA SUPAVA)
1490. RA NU BHA E . . .
1491. JA KE
1492. SA MA—break—ideo. God—break—RA
1493. VI TA NA DA—break—SA
1494. I VA RA VA RA or (VA RA I VA RA)
1495. RA (ja)—break—I SĀ VA
1496. PA—ideo. storm God—PU HA
1497. SA DA MA I
1498. TSA PA—break—SA NA
1499. DHI RA (ja) NI VA ... PA ... (or RA (ja) ITHA NI VA ... PA ...)
1500. VA RA SA YA
1501. SA DA
1502. RA YA VA VA JA—break—SAVA
1503. VA DA NA TA VA DHA NA
1504. RA (ja)—break—BA BA NA JA MA
1505. RA (ja)—I TA (position corrected)
1506. ... NA I PA VA
1507. KA/SA

1508. BA BA ideo. God—TSA
1509. KA SA/RA (or ideo. God)
1510. SA PA VA
1511. 13/...
1512. 13/SA VE
1513. E/—ideo. God—VA—ideo. God—O
1514. RA (ja) NA/JA SA TA
1515. ... VA/ ... PA NA
1516. VE
1517. ITHA BA BA
1518. SA ... KA
1519. TSA PA
1520. SĀ I RA
1521. HA YA
1522. NE
1523. ... RA I—break—KA NA
1524. RA (ja)—MA
1525. RA (ja)—VA NA
1526. I PA
1527. ideo. city—break—PU
1528. I KA NU
1529. RA (ja)—break—RA NA ideo. God
1530. ideo. city—break—SA...ideo. God—DHA RA (ja) (or ideo. city DHA SA—ideo. God, ideo. King)
1531. I TSA MA
1532. ... PU DHA ...
1533. TA SĀ
1534. RA/MA

Figure 107

1535. SU PA VA
1536. E PA VA
1537. ... SA SA 13
1538. YA
1539. RA (ja) YA RA MA
1540. RA (ja) BA BA VA VARA
1541. I PA VA
1542. ideo. storm God—PA ...

1543. PU BA BA
1544. SA NA HA
1545. VA NA TA VA
1546. ... PU SA–break–PA SA
1547. BA BA SU SA NA
1548. 2/TA VE. (or I E)
1549. NA NA KA MA RA
1550. ideo. for King–DA HA (or SA–DAHA)
1551. I VA–break–SA–ideo. God–RA VA
1552. SU MA RA–break–UR
1553. SA DHA TA VA
1554. YA SA–break–VA SA abbr. SANA
1555. PU BHA VA SA I
1556. ideo. God – I VA SA
1557. VA RU NA ... ideo. God–VA
1558. SA ideo. God–PA VA
1559. NA VA RA
1560. NA YA ideo. storm God
1561. RA (ja)–break–I YA
1562. RA (ja)–I ideo. God
1563. RA (ja)–MA NA VA–SA abbr. VA RA RANA
1564. VA MA
1565. I SO NA
1566. MA VA NA
1567. NĀ MA
1568. DHI–break–BA BA
1569. RA (ja)–break–SA ... abbr.
1570. NA VA RA (ja)
1571. PA VA E
1572. SA SA
1573. RA (ja)–break–I NA
1574. BA BA I PA VA
1575. RA VA
1576. RA (ja)–break–I RA
1577. BA BA VA JI
1578. RA (ja) –break–VA NA PA VA NA
1579. RA RA (ja) RA (ja)–MA SA NA ideo. for country
1580. RA (ja)–break–VA SA SA NA KA VA NA (monogram)
1581. BA BA PA VA RA NA
1582. VA PA–break–TSA NU
1583. RA NA

1584. VA NA
1585. YA VA NA
1586. MA VA PA BA BA
1587. 2/YA—SA—abbr. E
1588. YA MA VA—break—DHA NA (position corrected)
1589. RA (ja) TA SA KHA SMA
1590. I SI NA—RA (ja)—break—VA SA SU NA E MA
1591. VA RA Det. for name PA VA NA
1592. TA VA KA VA (monogram KAVANA) NA
1593. SU SA BA BA VA RA VA MA
1594. VA PA VA E SA
1595. DHA RA (or—SA RA—abbr.)
1596. RA (ja)—break—TA SA NA
1597. VA RA—SA VA NA
1598. ideo. God—break—BHN SĀ SA KA
1599. PA VA TA—break—I MA
1600. KA VA VI NA

Figure 108

1601. ideo. city—RA NA
1602. RA (ja)—break—SA PA VA
1603. VA SA
1604. SO YA SA Det. for name
1605. VA RA (ja)—break—MA VA SA—PU ... abbr.
1606. SA RA NA—NA ideo. Goddess Ishtar—NA
1607. I MA—VA NA
1608. YA YA—PA RA BA BA—break—PA VA
1609. RA (ja) KA VA NA SA NA Det. for name
1610. SA VA NA SU NA
1611. VA—SA abbr. E
1612. VA RA SU SĀ PA VA NA
TA VA SA ideo. for regnal year H E T SP 31 YA MA
1613. SA VI—break—PA MA
1614. JA PE RA (ja)
1615. ideo. God—VI JA RA (ja)
1616. RA (ja)—break—RA ideo. God—NA
1617. RA (ja)—break—TA VA SA PAVA

1618. ideo. for tribe—VA MA SA PA VA NA
1619. RA NA Det. for name—SĀ SA
1620. YA PU—break—VĀ YA VA
1621. RA NA—YA VI VA
1622. NA NA BA BA
1623. JE BHA—break—NA NA
1624. RA (ja) SĀ RA VA NI
1625. MA—break—TA VA MA
1626. SA VA RA I RA
1627. SA MA
1628. RA (ja)—break—SA MA
1629. MA PAVA I KA
1630. KHA SA
1631. 10 10 10 I DA (or DI—weight)
1632. 10 10 10 SA (A liquid measure)
1633. NA BHA PA RA NA
1634. BA BA RA RA
1635. RI BA BA KA
1636. SA VA ...
1637. RA RA NA
1638. RA NA
1639. PA SA
1640. VA ideo. God—PA
1641. RI SA
1642. RA NU
1643. MA NNA
1644. TU NA
1645. BA BA RA RA
1646. RA (ja)—break—MA NA
1647. RANA ⎫
⎬ RA RA NA SA
RANA ⎭
1648. SA VA ideo. God—NA
1649. VA SA DA VA ...
1650. RA BA—break—VA RA

Seals and Sealings—Figures 83 to 108

REFERENCES TO PUBLISHED SOURCES

ABBREVIATIONS :

M — Marshall, Sir John 1931 Mohenjodaro and Indus civilization (London).

Mc. — Mackay, E.J.H. (1938) Further Excavations at Mohenjodaro Delhi.

V. — Vats, M. (1904) Excavations at Harappa (New Delhi).

H. — Huntur, G.R. The script of Harappa and Mohenjodaro, London—1934.

G. — Gadd, C.J. 1932, Seals of Ancient Indian Style Found at Ur, Proc. British Academy, 18, 191-210.

L. — Lothal.

K. — Kalibangan.

D. — Desalpur.

R. — RUPAR.

I.A. — Indian Archaeology—A Review.

Ch. — Mackay, E.J.H. 1943. Chanhudaro—Excavations 1935-36, connecticut.

Sl. No. of Seals etc. MACKAY, J H.	*Source Further excavations at Mohenjodaro*	*Remarks*
Mc. 1 to 52	(Mc.) Pl. LXXXIII	Mohenjodaro—D.K. area G. Section, Impression of Seals Upper level.
Mc. 53 to 103	(Mc.) Pl. LXXXIV	-do-
Mc. 104 to 155	(Mc.) Pl. LXXXV	-do-
Mc. 156 to 216	(Mc.) Pl. LXXXVI	-do-
Mc. 217 to 271	(Mc.) Pl. LXXXVII	-do-
Mc. 272 to 333	(Mc.) Pl. LXXXVIII	-do-
Mc. 334 to 378 and A,B,C,D	(Mc.) Pl. LXXXIX	-do-

Mc. 379 to 429	(Mc.) Pl. XCIV	Mohenjodaro – D.K. area G. Section, Impression of seals Lower level.
Mc. 431 to 484	(Mc.) Pl. XCV	-do-
Mc. 488 to 536	(Mc.) Pl. XCVI	-do-
Mc, 538 to 592	(Mc.) Pl. XCVII	-do-
Mc. 539 to 648	(Mc.) Pl. XCVIII	-do-
Mc. 642 to 685 A, B, C	(Mc.) Pl. XCIX	-do-
Mc. 687 to 704 and 1 to 10	(Mc.) Pl. LXXXII	Mohenjodaro – D.K. and S.D. areas Seals, Amulets, beads, Figurines and coins.
Mc. A to G and 1 to 15	(Mc.) Pl. C	Mohenjodaro – D.K. area, G. Section, Seal Impressions, Hair pins Comb, Buttons.
Mc. 1 to 24	(Mc.) Pl. XC	Mohenjodaro – D.K. area, G. Section Seals and Amulets—Upper Levels.
Mc. 1 to 35	(Mc.) Pl. XCI	Mohenjodaro – D.K. area, G. Section Clay and Faience Amulets, Combs, Pins and Buttons, Upper Levels.
Mc. 1 to 12	(Mc.) Pl. XCII	Mohenjodaro – D.K. area, G. Section, Clay and Fience Amulets.
Mc. 1 to 14	(Mc.) Pl. XCIII	Mohenjodaro – D.K. area, G. Section, Copper Tablets.

Mc. 1 to 15	(Mc.) Pl. CI	Mohenjodaro – D.K. area, G. Section Clay and Faience Amulets.
Mc. 1 to 15	(Mc.) Pl. CII	Mohenjodaro – D.K. area, G. Section, Clay and Faience Amulets.
Mc. 1 to 19	(Mc.) Pl. CIII	Mohenjodaro – D.K. area, G. Section, Copper Tablets and Amulets Lower levels.

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M. 1 to 18	(M.) Pl. CIII	Seals
M. 19 to 40	(M.) Pl. CIV	Seals
M. 41 to 69	(M.) Pl. CV	Seals
M. 70 to 104	(M.) Pl. CVI	Seals
M. 105 to 142	(M.) Pl. CVII	Seals
M. 143 to 191	(M.) Pl. CVIII	Seals
M. 192 to 257	(M.) Pl. CIX	Seals
M. 258 to 325	(M.) Pl. CX	Seals
M. 326 to 361	(M.) Pl. CXI	Seals
M. 362 to 406	(M.) Pl. CXII	Seals
M. 407 to 470	(M.) Pl. CXIII	Seals
M. 471 to 533	(M.) Pl. CXIV	Seals
M. 534 to 560	(M.) Pl. CXV	Seals
M. 1 to 30	(M.) Pl. CXVI	Seals
M. 1 to 16	(M.) Pl. CXVII	Copper Tablets
M. 1 to 17	(M.) Pl. CXVIII	Sealings and Misc, objects copper Tablets

Vats, M.S. Excavations at Harappa

V. A to Z and aq.	(V.) Pl. LXXXIV	Types of Seals and sealings
V. 1 to 15	(V.) Pl. LXXXV	Seals

V. 16 to 37	(V.) Pl. LXXXVI	Seals
V. 38 to 67	(V.) Pl. LXXXVII	Seals
V. 68 to 105	(V.) Pl. LXXXVIII	Seals
V. 106 to 167	(V.) Pl. LXXXIX	Seals
V. 168 to 225	(V.) Pl. XC	Seals
V. 226 to 260	(V.) Pl. XCI	Seals
V. 261 to 302	(V.) Pl. XCII	Seals
V. 303 to 328	(V.) Pl. XCIII	Sealings
V. 329 to 367	(V.) Pl. XCIV	Sealings
V. 368 to 428	(V.) Pl. XCV	Sealings and Tiny seals
V. 429 to 496	(V.) Pl. XCVI	Tiny seals
V. 497 to 580	(V.) Pl. XCVII	Tiny seals
V. 581 to 613	(V.) Pl. XCVIII	Tiny seals and sealings and an inscribed stone slab
V. 614 to 650	(V.) Pl. XCIX	Seal, sealings and inscribed ivory rod
V. 651 to 692	(V.) Pl. C	Sealings
V. 693 to 713	(V.) Pl. CI	Seals, Sealings, inscribed ball and Pottery
V. 1 to 27	(V.) Pl. CII	Inscribed pottery

SEALS FROM STRATIFIED DEPOSITS

From : **Further Excavations at Mohenjodaro—Mackay, E.J.H.**

Late Period—I. Total—45

Serial Numbers : Mc. 3, 4, 5, 6, 7, 10, 11, 12, 13, 15, 19, 20, 21, 22, 23, 24, 25, 27, 32, 33, 34, 35, 38, 41, 43, 44, 45, 46, 47, 50, 51, 52, 53, 54, 55, 56, 57, 58, 61, 63, 64, 66, 67, 99, 640.

Late Period—II. Total– 60

Mc. 54, 68, 71, 73, 74, 75, 77, 79, 82, 83, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 98, 99, 100, 101, 103, 104, 105, 106, 107, 109, 110, 112, 114, 116, 117, 118, 119, 120, 123, 125, 127, 128, 130, 131, 132, 134, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 151, 155.

Late Period—III. Total—113

Mc. 131, 152, 153, 154, 157, 159, 160, 162, 163, 164, 165, 166, 167, 169, 170, 171, 173, 174, 175, 176, 178, 179, 183, 184, 185, 186, 187, 188, 190, 191, 192, 193, 195, 196, 197, 199, 201, 202, 203, 204, 205, 207, 208, 211, 213, 216, 217, 219, 221, 222, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 241, 242, 243, 244, 246, 247, 249, 250, 252, 253, 254, 255, 256, 257, 258, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 278, 279, 280, 281, 282, 283, 284, 285, 286, 288, 290, 292, 294, 295, 296.

Intermidiate—I. Total—114

Mc. 289, 297, 298, 300 to 307, 309 to 319, 322 to 327, 331 to 337, 339 to 342, 344 to 350, 352, 353, 355, 356, 358 to 371, 373, 375, 377, 378, 381, 382, 384 to 391, 393, 395 to 398, 402 to 411, 413 to 415, 417 to 424, 426 to 435.

Intermidiate—II. Total—66

Mc. 419, 436, 437, 438, 439, 441, 442, 443, 444, 446, 447, 449, 450, 451, 452, 453, 455, 456, 457, 458, 459, 460, 461, 463, 464, 465, 466, 468, 469, 470, 471, 473, 474, 475, 476, 477, 478, 480, 481, 482, 485, 486, 489, 493, 495, 496, 500, 501, 503, 505, 507, 511, 512, 513, 515, 518, 520, 521, 522, 526, 527, 529, 530, 531, 532, 536.

Intermidiate—III. Total—89

Mc. 537, 538, 539, 540, 541 to 549, 551, 552, 554 to 559, 562 to 569, 571, 573, 574, 576 to 579, 581, 582, 584, 585, 589 to 593, 595 to 609, 611, 612, 614 to 617, 620 to 623, 625, 626, 628 to 638, 640, 641, 643, 645, 646, 648.

Early Period. Total—48

Mc. 650, 651, 652, 653, 654, 655, 656, 657, 658, 660 to 669, 671, 673, 674, 675, 677 to 685, 687, 689, 690, 691, 694, 697 to 700, 702, 704.

SEALS FROM STRATIFIED DEPOSITES

From : **Mohenjodaro and Indus Civilization—By Sir John Marshall**

Late Period—I. Total—130

M—2, 4, 6, 13, 14, 20, 25, 28, 34, 37, 40, 41, 44, 45, 46, 49, 55, 60, 68, 72, 74, 76, 79, 95, 98, 99, 106, 109, 113, 115, 119, 122, 125, 129, 130, 132, 133, 142, 145, 146, 147, 150, 155, 159, 176, 185, 186, 190, 193, 197, 204, 205, 212, 215, 215, 219, 220, 227, 229, 230, 233, 254, 262, 265, 268, 270, 274, 275, 277, 281, 287, 288, 294, 302, 303, 309, 317, 320, 321, 325, 327, 328, 330, 339, 340, 341, 343, 344, 347, 349, 350, 351, 355, 360, 361, 368, 369, 382, 386, 391, 403, 408, 409, 411, 412, 414, 415, 416, 418, 427, 435, 437, 438, 440, 450, 452, 466, 467, 474, 475, 478, 479, 491, 494 499, 526, 527, 535, 540, 542, 554.

Late Period—II. Total—35

M—1, 59, 75, 77, 78, 81, 87, 91, 107, 108, 140, 162, 165, 169, 170, 180, 182, 187, 189, 198, 235, 261, 282, 283, 289, 296, 301, 315, 334, 394, 424, 449, 450, 531, 556.

Late Period—III. Total—24

M—1, 5, 7, 11, 27, 50, 51, 94, 114, 160, 191, 257, 273, 310, 337, 338, 380, 381, 421, 429, 439, 462, 488, 552.

Intermidiate. Total—34

M—6, 7, 9, 13, 19, 23, 24, 26, 30, 32, 53, 61, 67, 69, 80, 84, 100, 110, 111, 118, 151, 156, 168, 179, 228, 236, 306, 365, 374, 423, 430, 431, 551, 558.

Intermidiate—III. Total—6

M —3, 29, 137, 175, 532, 533.

SEALS FROM STRATIFIED DEPOSITS

From : **Excavations at Harappa—M.S. Vats.**

Late Period—I. Total—29

V. 9, 13, 16, 30, 40, 45, 46, 57, 92, 117, 118, 240, 251, 268, 270, 272, 276, 283, 284, 306, 315 316, 321, 326, 327, 337, 519, 605, 698.

Late Period—II. Total—21

V. 1, 15, 23, 29, 71, 76, 88, 118, 132, 204, 254, 264, 286, 334, 362, 368, 550, 614, 630, 679, 702.

Late Period—III. Total—43

V. 3, 6, 8, 14, 24, 25, 33, 34, 38, 73, 84, 91, 97, 99, 114, 120, 128, 137, 142, 143, 169, 230, 267, 273, 281, 292, 298, 320, 322, 339, 346, 367a, 382, 409, 432, 465, 482, 490, 553, 623, 669, 674, 689.

Intermidiate—I. Total—25

V. 12, 18, 28, 37, 100, 119, 138, 141, 147, 189, 223, 235, 253, 263, 304, 323, 325, 371, 372, 385, 499, 516, 546, 617, 654.

Intermidiate—II. Total—43

V. 107, 139, 144, 149, 161, 239, 243, 265, 342, 347, 369, 377, 387, 407, 422, 425, 435, 436, 451, 453, 454, 461, 464, 480, 483, 502, 509, 521, 525, 542, 543, 544, 564, 575, 580, 584, 610, 620, 646, 666, 684, 690, 691.

Intermidiate—III. Total—31

V. 110, 130, 236, 296, 324, 344, 356, 361, 411, 430, 431, 434, 473, 474, 485, 487, 497, 501, 503, 506, 508, 522, 548, 554, 555, 573, 587, 604, 635, 678, 692.

APPENDIX IV

Key to Plates I to XI

Sl. No.	*Source*	*Reading and explanation*
PLATE I		
1.	Mc. 420	MAKHANĀSANA
2.	Mc. 222	ISANA
3. a & b	V. 307	SYONA (ideogram for God in the middle of 3 b)
4.	M. 356	(1) PAVANE (2) VARA (TAVAMA) EE (or, TAVAMA VARA EE) meaning Excellent E_2 or Y_2Y_2 belonging to land Tava, or Excellent and strong Ea
5.	Mc. 45	TAVA VARA VARUNA meaning strong and Excellent Varuna
6.	V. 316	King or Goddess ISHTA (monogram PA VA for country) URA (Ishtar)
7. a & b	V. 327	RASADALE (Soma leaves)
8.	M. 129	ideo. for Temple PAVA (PAVANA—given in monogram)
9. a & b	V. 356	SATASA – 13 or TA VA SAKE
10. a & b	V. 684	EKA ETYA – 12
11. a & b	V. 682	PADE—12

12.	Hunter No. 112	UPA BHĀRA—VIMSA—13
13.	V. 709	MANA or MINA

PLATE II

14.	V. 379	PANE
15. a & b	V. 369	KASA MANA—12
16.	V. 371	BHASA SUVARNE—13
17.	Mc. 268	King MANA
18.	M. 340	King SATADHANVI or SATADHVI ideo. for Vatapatra or leaf of a Teak tree or (Pipal leaf) indicating that the king belongs to Saka tribe.
19.	M. 362	King PUSAKARAM
20.	Mc. xClx/C	King RĀVANA
21.	Mc. Pl. C/g	VARA VISĀNA (Tribe)
22.	Mc. 519	VRAJ A DASARNA (ideo. for country PAVA)
23. a & b	M. 5	UPA PURA (middle—ideo. for storm God) In (b) standards or banners bearing Indus battle standard, flag, and Sun standard indicating the different legions of the conqueror entering the city.
24.	Mc. 93	YA PU ideo. war God BA BA RANA (city)
25.	M. 337	VATSARAJA—King
26.	M. 350	SUSMIHE
27.	M. 438	SYORAMANA (SOLOMON ?)
28.	Mc. 229	ISUKA (ISKUR ? Sumerian God of storm)

PLATE III

29.	V. 303	Seated God—with different annimals around. Below RA RANA (*Ra* means God, Rana=name of Sun God)
30.	V. 318	SANE
31.	Mc. 677	MAKHANĀSANA
32.	V. 251	ISHTA URA

33.	Mc. 84	RAKSHA (ideo.) SAVANA
34.	M. 341	VAHANASA VARUNA
35.	Mc. 122	MA(HESVARA)—VARUNA
36.	V. 77	King SAVANA
37.	V. 325	YA (ideo. for Sun God) NE (& Det. for name suggesting the name of a person)
38.	M. 151	ideo. for storm God ideo. for a BA BA—space mark ? YASA (ideo. for Sun) NA.
39.	M. 440	VINA VARA
40.	M. 237	VARA SA SA SA VA RANA
41.	M. 233	MA (HESVARA) – VARUNA
42.	Mc. 466	PA/BA BA DATYAPE – King (Daitya ?)
43.	Mc. 415	VARA PAVA DATYAPA
44.	M. 106	(Kshemankara or ideo. for God)—INIVA
45.	Lothal I.A. 1955-56	King RĀMA (in the middle evolved ideo. for God in Abhayamudra as shown in seal No. 3 b)
46.	Mc. 198	MA(HESHVARA)-TAVAMA (country TAVA personified as God)
47.	Mc. 697	IMA—BA BA NA
48.	M. 339	TANA (ideo. for storm God ideo. for Sun God)
49.	V. 72	VA PA RA – SUBHANA

PLATE IV

50.	(Stuart Piggot) Kulliware	DA NNU MA NNU king of Magan See pp. 68-73.
51.	Slate Palette of king Narmer now kept in British Musuem	On the left palette the king Narmer is shown conquering the Delta region, for which the ideo. papyrus is shown. Horus is handing over the region to king Narmer. On the right palette – King Narmer visiting the beheaded captive kings after he entered the cities of the enemies of Horus. The victorious legions with the standards of Ptha, Sebek, Ra etc. similar to that

		found in Indus seal No. 23 a & b pl. 2. Below is represented Hathor or the bull trampling the enemies and enemy fortresses – symbolical representation of the victory of king Narmer. The same is represented in Indus seal No. 17 pl. II. It was described as the manger, but I am inclined to call it a fortress just like the one we have seen above.
52.	Kalibangan I.A. 1963-64	The victorious warriors of Elam, Yana risi as shown in seals 53, 60 and 63 in the same plate, were capturing the land of the Sind (Tava or Pava) which was under the control of the Sumerian king Ur Ea and were taking away their God Makhanasana representing Seal 54 in the same plate. The God is shown half-annimal and half-man with the body of a tiger and head, feet and arms of human form. This would prove that the tiger facing the God in Makhanasana seal, is the God himself being the symbol of destructive and ferocious power. It may be inferred from seal 60 where a tiger (Makhanasana is roaring at YANA rishi (an Elamite king) that once the Elamites were defeated by the Indus People, the name of which also is given as *Tava* in Seal 62. *Maruna* means a warrior in Vedic Sanskrit.
53.	M. Pl. XCIX	Head of Yanarishi (Elamite king or Warrior) Elamites may be Vāsas of Vedic period as can be inferred from Basha Susinak etc., names of Elamite kings.
54.	Mc. 347	Ur Ea (of Sumer) with the God Makhanasana which shows that the land Pava was once under Sumerian rule.
55.	Mc. 563	SAVARASA—MANA (Can it be an abbreviated form of Svarochisha Manu)
56. a & b	V. 304	RAVANA DAMA—inscribed same on both sides which means annhilator of Ravana King of Babylonia as shown in seal 58. On the above a man is shown in topsyturvy position and a tortoise (Kasyapa) or Cancer – Sucking out the life of the person. Which may mean either that the King Ravana was killed by

		a person hailing from the family of the kasyapas or Ravana himself a descendant of a kasyapa family. The fight between them was ferocious as shown by the two fighting lions. Below, again a person with a sword and a shield was about to separate the head of a fallen enemy. Compare this name with the name Namenna Duma, Vizier to En-Merker lord of Erech who was challenged by the Vizier Ansiggaria of Aratta.
57.	Mc. 75	Wawa Saka. Actually there is no difference while pronouncing between Wa and Ba. So it must be Baba Saka—the ruler of the country of Baba (Babylonia ?) of the friend of the country Babylonia. We may compare it with Khumbaba an Elamite Ogre killed by the Sumerian semimythical hero Gilgamesh.
58.	Mc. 86	RA VA NA PUBHANA of Saka (Sun-Worshiping) country shown by an ideogram of sun. In seal 58 he is shown as a friend of Babylonia which also implies he is an enemy of Elam. The same name occurs on an Indus seal found at Telloh (Lagash) in Iraq.
59.	M. Pl. X C VIII	Surely a king, possibly Yavana or Saka—identified on the ground that he wears a garment with trefoil decoration worn round the left shoulder while the right arm and shoulder not covered, which is a usual feature of Gandhara, Greek and Gudeau (of Babylonia) sculptural style. The trefoil, which closely resembles the cruciform star symboles, indicates royal or divile attribute as is commonly found on Egyptian Hathoric cow or Minoan adaptation of it. This motif was evolved from the Pipal leaf, a symbol of Saka Tribe (See seal 202). The band on the forehead and around the arm has been (Persian) Aryan custom. The beard style with shaven moustache is a peculiar feature of Persian archers (Aryan) style of Cyrus and Darius times.
60.	Mc. 522	ideo. city—YANARISHI, means Hero from country Yana (Susiana)—It might have been a popular subject

for depiction on seals because it was repeated several times with different inscriptions.

YANA might be Elam. Elam was known to sumerians as *Numma*, to Babylonians and Assyrians as *Elamtu* or *Elamu*; to the Greeks as *Susiane*; in the Bible it is Shushan. The Elamites used to call themselves as Khapirti or Khatamti. So, naturally to the Indus people it should have been a different term as *Yana*.

61.	V. 308	The version varies here, the hero attacks the tiger with a lance whereas in seal 60 he is shown afraid of Tiger. He can be compared with the Egyptian God of Thinis, Anhur or Onouris a warrior deity who is depicted as a king armed with lance.
62.	M. 355	The subject is same as in seal 60, but the inscription changes. It is MARUNA ideo.—Saka land as in seal 202. Maruna (Marya, Maryannu, of Thothmes III inscriptions) in Vedic Sanskrit is a term for a young warrior. It is also a word denoting the storm Gods *Maruts*.
63.	Mc. 573	Tava—MARUNA—This seal is given here to have comparison of the name *Maruna* with seal 62. TAVA is saka land Mohenjodaro region just as *Yana* is Elamite country. Entire Indus region is known as "PAVA, Pavana, or Puna or Sāpana in the (seals 65 etc.).
64.	M. 357	ideo for God (abraded) PA MA MA VA (or PA VA MA MA).
65. a & b	M. 20	PUNE (also written sometimes as Pavana, & Pava) means a holy land known in Vedas as *devakrita Yoni*, *Punya Bhumi*. The ideograms swastika and the sacred tree also indicate the above. (Taneter or Punt of Egyptian version) on the other sign is shown a crocodile devouring a fish. Usually crocodile in the seals, stands for God Varuna, lord of Oceans. Fish is the symbol or totem of Pavana country, which was taken over by lord Varuna (Oannes—half-man, half-fish-of sumerian tradition. From the Hymn of victory of

Thothmes III, we may deduce that the country Punt (Puone or Pavana) was conquered by him—"...I have come; I have caused thee to smite the land of the East. Thow has trodden down those who are in these regions of gods' Land (Punt), I have caused them to see thy majesty like a sircling star, when it scattereth its flame and shooteth forth its fire...".

..."I have come : I have caused thee to smite those who are in their fens, the lands of Mitan tremble from fear of thee; I have caused them to see thy majesty as a crocodile, lord of terror in the water, unassailable (from Hall, H.R.) so it appears that the crocodile stands for Egyptian conquering of the land Pavana from the hands of Mitan (Mitannians) or *Yana* or Tana (Elamites) who had conquered it from the Sumeriàns as shown in Seal 52.

66.	M. 10	Again another seal depicting the victory of a people whose totem is rhinoceros (Possibly of Kassite dynasty Babylonia) Gandash – founder, Gandash – means Rhinoceros over the land of Pavana under the control of a different dynasty with cock as their totem and reads SA VA or SA BA BA, which may be seen in seals 205 and 206 (Baba Ima – king of Babylon)
67.	Mc. 337	VANAPASU – (A wild beast—a barbarian) – above – crocodile devouring a fish. Here the crocodile does not signify God Varuna, but a barbaric tribe most probably saka – Scythians, destroying the land and causing terror.

PLATE V

68.	M. 395	NISAPA – YIMA (King of NISA)
69.	Mc. 23	ideo. for God – JEPU—PAVANA
70.	V. 86	VA RA – PAVAKA (both are monograms)
71.	Lothal I.A. 1959-60	SU MA RA – IRA or UR (Ira of Sumeria)
72.	Mc. 612	RA (ja) NAI SA BA BA (or RA (ja) N ideo. war God BA BA)
73.	Mc. 309	TAVAMA – SAVA

74.	Mc. 191	RA (ja) (abroded) PAVA–URA (Both meaning king–UR is Sumerian word for PA VA
75.	Mc. 345	SA ideo. for war God Baba—BA BA
76.	M. 159	BA BANI–IMA
77.	Mc. 395	IVA JE ideo. God UR
78.	Lothal IA. 1959-60	IVA–SA BA BA (ideo. God in Abhayamudra) compare with seal 71 IVA : means Babylonian God of wind and storm (also known as Vul.) IVA–Old Hamitic name for "air"; Arabic "Heva" and Sanskrit "*Pavā*" (air) BA BA is Babylonian war God
79.	Mc. 88	UMA–BA BA
80.	Mc. 473	Various ideograms and determinatives for king–DAMA DHA ideo. for BA BA–DHA
81.	Mc. 77	NUNU VA (monogram for NU) ideo. Totem–URA
82.	Mc. 390	ideo. for Temple–ideo. for storm God (–King or God or Country) DHA DA DHA
83.	Mc. 233	ideo. for Temple—50–ITAVASANA (or TA VA ISANA Det. for name)
84.	M. 72	ideo. for Temple—50 RA NA ideo. for God Det. for name
85.	Mc. 18	MA PA VA BA DHA MA–RAMA PAVA (monogram PAVA)
86.	M. 447	BHASĀ–SAMIHA (Samiha of Bhasa city; Indra's capital is known as *Bhasa*
87.	V. 87	TAVA SA (or TA VA VASA)--VA PA NA (ideo. for VASA tribe) We have met with the land TAVA elsewhere
88.	M. 128	TUMARA (may be a town or Turamian Tribe or may be an abbr. for Tamraparni (Tammaparna seal 128)
89.	V. 75	RAMANA (or RAMMAN–or ADAD Babylonian God of storm and wind) or may be a king of the land bordering Elam-Rish Ramman of whom Naramsin the

		Babylonian ruler mentioned that he defeated; or may be Parasu Rama, A Bhargava Rishi—Parasu might have originated from *Parasus* a Persian Tribe
90.	M. 67	King IDHA SARA ideo. king RA (ja) or THA SRI (ideo. king)
91.	V. 73	King VA SA RA of PAVA
92.	Mc. 464	IPURA (A town)
93.	Mc. 184	TAMANA SARANA

PLATE VI

94.	V. 80	King PIPRA (Asura king)
95.	Mc. 373	DAHA—YASAKA of Saka land or VA NA (ideo.) (Daha—Dasa ?)
96.	Mc. 14	VANA
97.	M. 150	VA (ideo. for house with Phon. value VA) MA—VANA
98.	Mc. 577	VARA (monogram) VASANA or VA SA VA R NA
99.	Mc. 541	BHA YASA TA VA MA HA (or TA VA BHA YA SA MA HA)
100.	Desalpur IA 1963-64	DANA or DHANA—VAYAVA (countries)
101.	M. 439	RANA—TAVAMA (God Rana of Tava)
102.	M. 347	JANA (determinative—Man—for name of person) ISĀKA
103.	Mc. 216	TSAPA—SANA
104.	Mc. 79	King SAJAVANA (Sargon ?)
105.	Mc. 152	YASARANA
106.	Mc. 631	KAKANA
107.	Mc. 615	DHAPA King BABA (or DHAPA BABARA)
108.	M. 110	King (Ur) MA BHESA King (Ur) EE. (King of Babylonia King of Ur)
109.	V. 81	VASUTAVAPUVAPANA (TAVA VASU PUVA PANA)
110.	V. 85	King RUMA (Protege of Indra)

111.	Mc. 2	PASU—VAPANA
112.	M. 306	BABA (ideo. or Totem for Vasa Tribe) VASA-SUBHANA MUMA
113.	Mc. 24	BABA (ideo. or Totem Cock)—VASA VASA-TAVAKA (or BA BA BA SA BA SA TAVAKA)
114.	M. 78	King YANA (ideo.—Man with a stick war God Baba)
115.	Mc. 419	RA RA—SANA (determinative for name of Person) or Raja Raja SANA
116.	M. 93	NA NA (ideo. Swan in a circle suggesting war Goddess ISHTAR) SARANA (Sarana is shown in Sanskrit Dictionaries as a minister to Ravana sent to Rama. The name Ravana was met with several times in seals. Philistine tyrants are known as *serens*. Zarina a Scythian queen commanded the Scythians in the battle against Xyaxares King of Medians
117.	Mc. 564	DUPA—SARAYAYANA (or YAYA SA RA NA)
118.	Mc. 656	King PIRA (The Egyptian Pharaoh is called *Piru* by Babylonians)
119.	Mc. 263	PAMANI DAMANA

PLATE VII

120.	M. 11	King SARA ideo. God NA ideo. storm God PAMA
121.	Mc. 207	BANIYA SABHANA
122.	Mc. 539	Dha—King—BHANA SA BA (or VA) KA
123.	Mc. 601	BA BA (ideo. RA (ja) IRA VA KA
124.	Mc. 475	RA NA RA (ja) VA NA
125.	Mc. 178	King YA YA PARNA PA (obscure DA or DHA ?) compare the names of Median Princes defeated by Sennacherib about 702 B.C.—Eparna, Sitriparna
126.	Mc. 421	YA YA (or Pava country)
127.	M. 340	King YA YA NA of Saka Land or Vana
128.	Mc. 486	VAMMA PARNA (or MA MA VA PA RNA)
129.	Mc. 141	VA PA VA RNA or VARUNA

130.	M. 145	King NATARNA
131.	Mc. 596	IVARA – NASO YA YA PARNA (compare it with the name of Median Prince *Zanesana*)
132.	Mc. 600	DAMANA
133.	M. 92	DHAMANI IPANA
134.	Mc. 701	IDHA RA (ja) PU MA HA
135.	Mc. 344	DHANI SUSA (or Pava Country)
136.	M. 305	King DHANA
137.	Mc. 620	NURVI or RA (ja) NUVI
138.	Mc. 616	NUPI

PLATE VIII

139.	M. 10	Kshemankara SONA – Kshemankara PUNA – DAPA PAVANA
140.	Mc. 140	NUE – YANA
141.	Mc. 147	King PAMA of Saka Land or VANA
142.	M. 310	DATA – YA (ideo. God in Abhayamudra) NA
143.	M. 148	NU DE
144.	Mc. 351	YAE (or YA NE)
145.	Mc. 651	I MA PAVA JA RA or RAJA PAVA IMA
146.	Mc. 180	King UMA
147.	M. 158	King SUMIHA
148.	Mc. 652	MAHA
149.	Mc. 650	King NIANA
150.	M. 58	PA DHI MA – SYOMANA
151.	Mc. 594	TASA DAMANA, a seal from Lothal (I.A. 1957-58) mentions TANA DAMANA
152.	Mc. 694	ideo. storm God – RA (ja) – SUSANA (Man as Det. for a proper name)
153.	M. 54	RAJA NU BABA RA (ja) IMA. (King Ima, King of BABA)

154.	M. 345	King SUSATAVAKA (or Susatavaka)
155.	M. 47	BHU DHA VAT SA PA—VA SA SA MA (HA) (or BA) TYAPA—VASASAMA (Vasasama—Bhrtya of Bhasa city.)
156.	M. 346	IVA SA—IMA

PLATE IX

157.	Mc. 518	RARAJA RANA SONA Det. for name
158.	Mc. 398	King SUSAKA—Kshemankara RANA RA (ja) BHU DHA RA (ja) PAVANA
159.	M. 343	RA (ja) KAVANA (monogram KAVANA)
160.	Mc. 396	PUSUSAJA KAVARANA
161.	V. 84	UPA NA NA SA NA (ideo. God)
162.	Mc. 581	BABA IYA RA (ja) INA (Man as Det. for proper name)
163.	M. 105	Ra (ja) VAPUSATAVAKA (or Vapustoka)
164.	M. 94	RA (ja) YASATAVAKA (or Yastoka)
165.	Mc. 208	NA RA (ja) SATAVAKA (Stoka)
166.	Mc. 145	SYONA (ideo. storm God) Pava
167.	Mc. 655	PUSATAVARNA (or Pustorna) or Pusatorna
168.	Mc. 524	KASA—TAVAKA (or Kasa—TOKA)
169.	M. 311	ideo. for city IPANA
170.	Mc. 365	VA IVARA—NISAKA (or IVARAVANISAKA)
171.	Mc. 80	King VAMA (or U MA)
172.	M. 77	VA PAVA VA (ideo. for VASA or BABA) SAPAVANA (or BA BA PA VA (ideo.) SAPAVANA)
173.	Mc. 81	RA (ja) PUSASAKA
174.	Mc. 592	VA (VASA) SA MUMA NA (or BA BA VA SA SANAMUMA)
175.	V. 79	ENA—SASYONA
176.	M. 342	YANA ideo. for war God Baba RAJANA

177.	Mc. 146	RA (ja)—SUSASANA
178.	M. 134	RA (ja) SABHANA

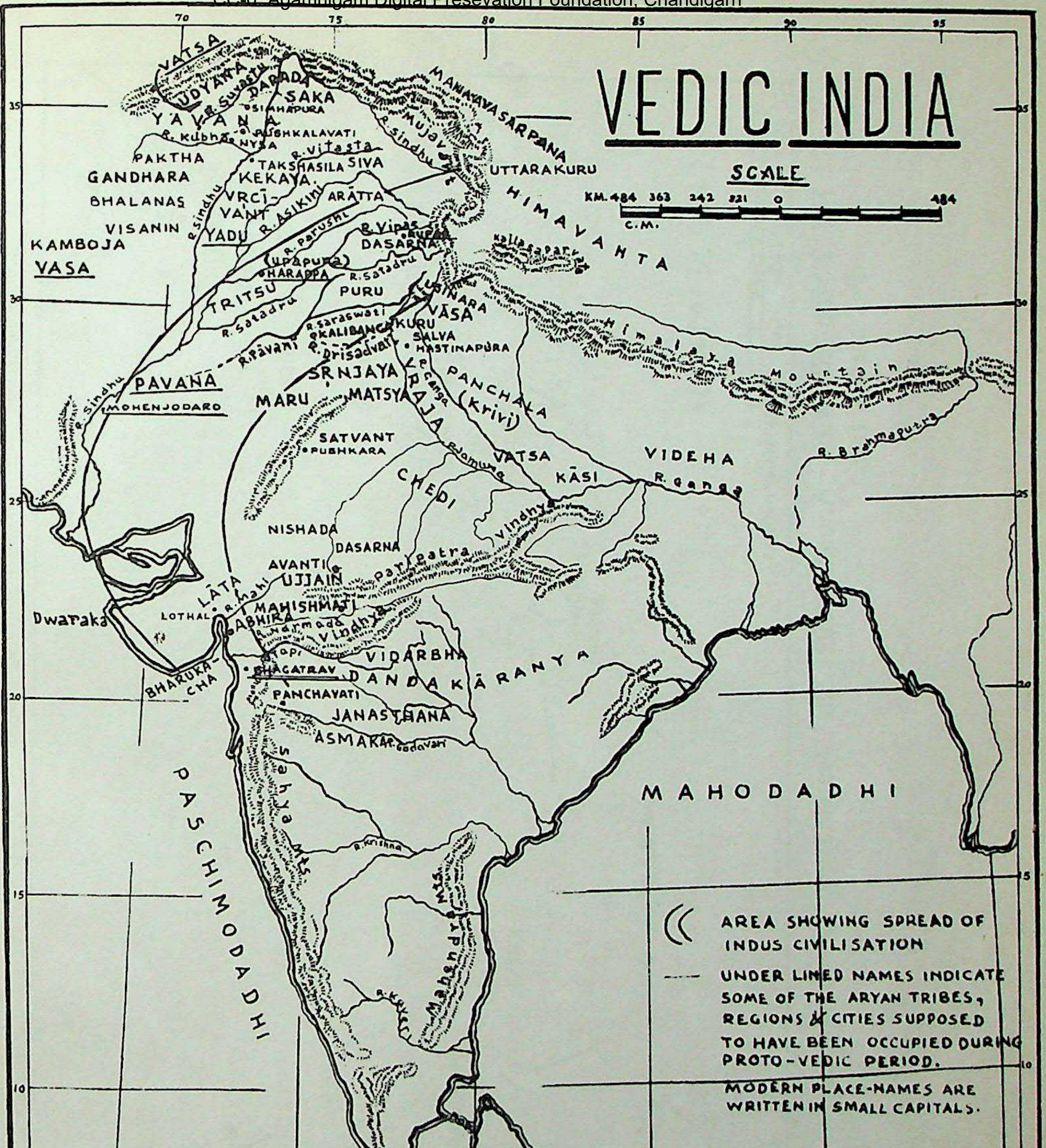
PLATE X

179.	M. 49	PU VAYA JA—SĀ THA SA VA RNA
180.	Mc. 548	RA (ja)—JANAKA
181.	Mc. 700	VASASANA (VASASENA)
182	Mc. 480	RA (ja) SAVASAPUNA
183.	M. 107	SONASEBHANA (Sunasepha ?)
184.	Mc. 224	RA (ja) SAKAKARNA
185.	Mc. 258	SYONA (Kings of Cyrene bear the word Syona in their titles or names)
186.	Mc. 538	MAMA (Det. for proper name) SYONA
187.	M. 114	RA (ja)—VASARANA
188.	Lothal I.A. 1956-57	RA (ja)—VASASAPANA
189.	M. 53	SASANA VARA
190.	V. 254	PUYASASANA TAVAKA VANA (or BABA) PAVAKA
191.	M. 98	RA (ja) SURANA
192.	M. 146	RA (ja) KAVA KA VA NA PAVANA
193.	M. 52	TSA BHU DHA PA PA—SUDAMANA
194.	Mc. 127	ideo. storm God BHU DHA PA TAVA SANA (Det. for proper name)
195.	Mc. 569	RA (ja) PADAMA of PAVA
196.	M. 369	RA (ja) SUPAVANA
197.	Mc. 599.	VARUNĀ PUYASATHIMA (or VA RA NĀ PU—YASA ITHAMA)
198.	Mc. 576	King SAVI (ideo. and Det. for VASA) NA
199.	M. 351	RA (ja) SARANA
200.	Lothal I.A. 1956-57	King—PUVASARA DAMANA

201.	Desalpur I.A. 1963-64	King – PUVASARA – DAMANA. SASAVARNA
202.	M. 387	VARA RA (ja) SAKA of Sakaland (Tava VANA)

PLATE XI

203.		YAMA : Sculpture from Niche of the southern Mandovara of Hatakesvara Temple in Vadnagar Mehsina Dist. Gujarat. A.S. Gadre N.I.A. 1939-40. According to the Silpasastra YAMA holds Cock in one of his hands. This is illustrated to bring home the fact that some animals and birds are associated with Gods in Egyptian, Babylonian, and Indus civilisations just as they are associated with the Hindu Gods of the Vedic and Puranic times.
204.	Mc. 648	King EMA of Saka land (ideo. for VA NA)
205.	M. 207	ideo. Cock for God or country BABA – IMA
206.	Lothal I.A. 1956-57	(ideo. Cock for God or country BABA) BABA : IMA (King of Baba)
207.	M. 338	Ideographic writing BABA (ideo. city) BA from BABHRU a chataka bird)
208.	Mc. Pl. LXXX II	(1) The holy land PUNA or PAVANA (Punya Bhumi) is shown by Swastika flanked by Elephant and Tiger and Goat. In the background Yanarisi in shown on the Tree. It seems the seal was engraved inconnection with some victory over the lands TAVA BA BA and Elam by the King of RANA which is understood by the sealings of other connected seals. (2) ELO TA VA BABA (3) The King of RANA (not written) is represented with the offering of sheep and cock to the God Makhanāsana.


VEDIC INDIA
SCALE
KM. 484 363 242 121 0 484
C.M.
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VATSA
UDYANA
R. Suvastu
DARADA
SAKA
SIMHAPURA
YAVANA
R. Kubha
PUSHKALAVATI
NYSA
R. Vitasta
PAKTHA
TAKSHASILA
SIVA
GANDHARA
KEKAYA
BHALANAS
VRCI-VANT
R. Sindhu
R. Asikini
ARATTA
VISANIN
YADU
R. Parushni
R. Vipas
DASARNA
KAMBOJA
VASA
(Upapura)
HARAPPA
R. Satadru
PURU
TRITSU
R. Satadru
R. Saraswati
KALIBANGA
KURU
R. Pavani
R. Drisadvati
SALVA
HASTINAPURA
USINARA
VASA
PAVANA
R. Sindhu
MOHENJODARO
SRNJAYA
MARU
MATSYA
VRAJA
R. Ganga
PANCHALA
(Krivi)
SATVANT
PUSHKARA
R. Jamuna
VATSA
KASI
VIDEHA
R. Ganga
R. Brahmaputra
CHEDI
MANAVAVASARPANA
Mujavat
R. Sindhu
UTTARAKURU
HIMAVANTA
Kailasaparvat
Himalaya Mountain
NISHADA
DASARNA
AVANTI
UJJAIN
Pariyatra
Vindhya
LATA
R. Mahi
LOTHAL
MAHISHMATI
Dwaraka
ABHIRA
R. Narmada
Vindhya
R. Tapi
VIDARBHA
BHARUKACHA
BHAGATRAV
DANDAKARANYA
PANCHAVATI
JANASTHANA
ASMAKA
R. Godavari
Sahya Mts.
R. Krishna
Mahendra Mts.
R. Kaveri
PASCHIMODADHI
MAHODADHI
LANKA
AREA SHOWING SPREAD OF INDUS CIVILISATION
UNDER LINED NAMES INDICATE SOME OF THE ARYAN TRIBES, REGIONS & CITIES SUPPOSED TO HAVE BEEN OCCUPIED DURING PROTO-VEDIC PERIOD.
MODERN PLACE-NAMES ARE WRITTEN IN SMALL CAPITALS.
S.P. Mote

Fig. 1 Map of Vedic India Showing Sites of Indus Civilization

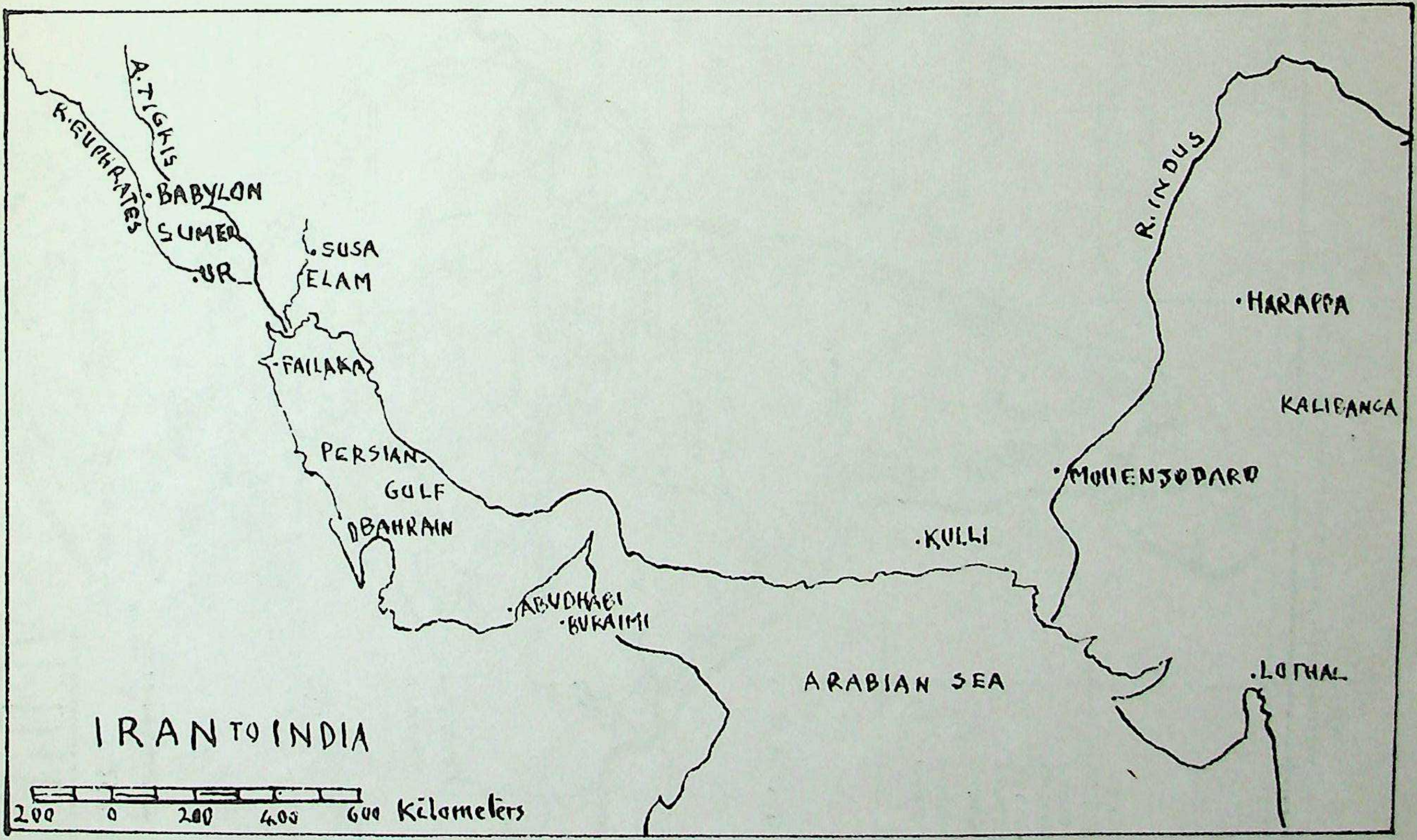
R. EUPHRATES
R. TIGRIS
BABYLON
SUMER
UR
SUSA
ELAM
FAILAKA
PERSIAN
GULF
BAHRAIN
ABUDHABI
BURAIMI
KULLI
ARABIAN SEA
R. INDUS
HARAPPA
KALIBANGA
MOHENJODARO
LOTHAL
IRAN TO INDIA
200 0 200 400 600 Kilometers

Fig. 2 Map Showing Ancient Sites in Iran, Iraq, Afghanistan, Pakistan & India.

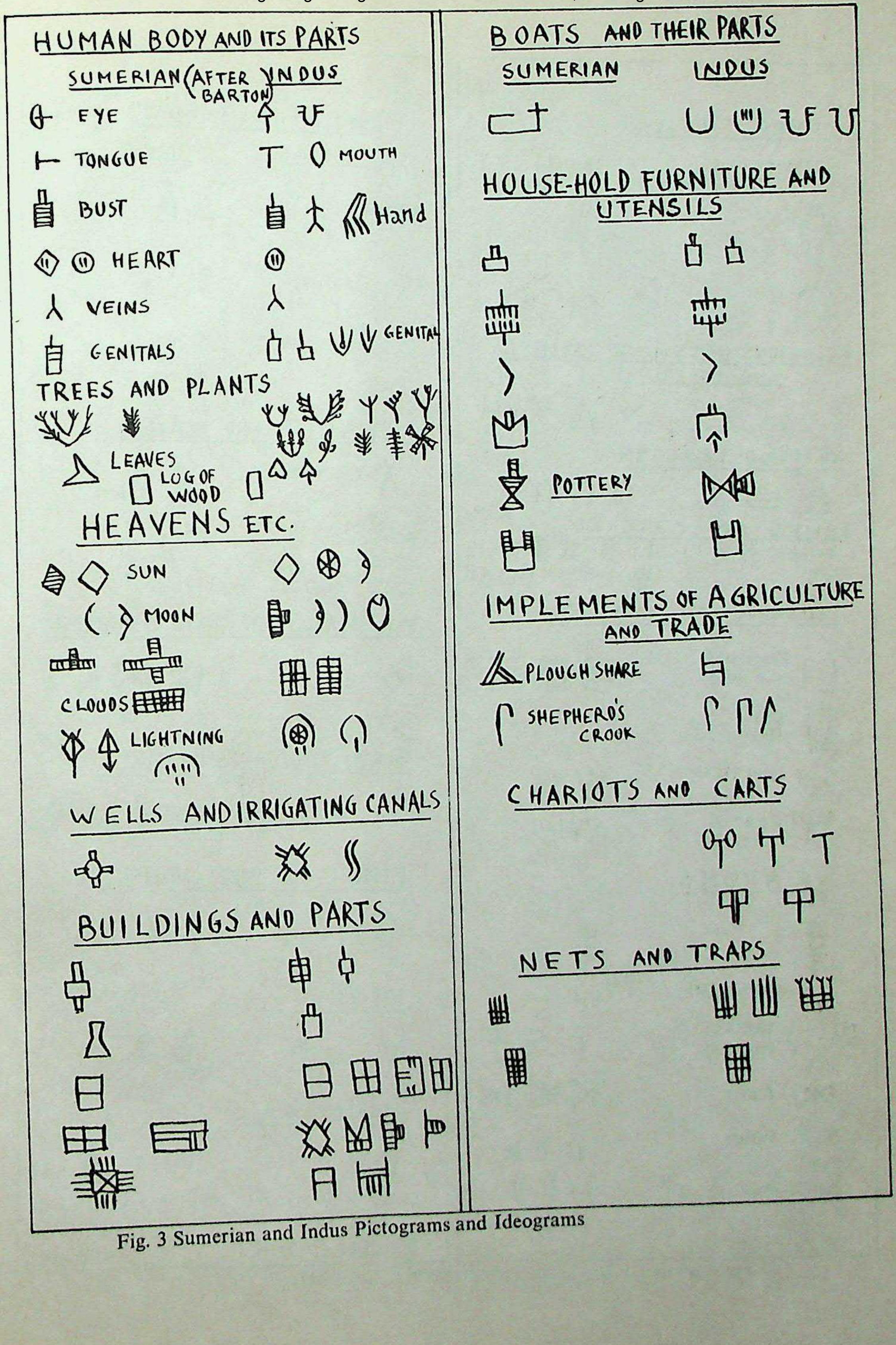
HUMAN BODY AND ITS PARTS
SUMERIAN (AFTER BARTON)
INDUS
EYE
TONGUE
MOUTH
BUST
Hand
HEART
VEINS
GENITALS
GENITAL
TREES AND PLANTS
LEAVES
LOG OF WOOD
HEAVENS ETC.
SUN
MOON
CLOUDS
LIGHTNING
WELLS AND IRRIGATING CANALS
BUILDINGS AND PARTS
BOATS AND THEIR PARTS
SUMERIAN
INDUS
HOUSE-HOLD FURNITURE AND UTENSILS
POTTERY
IMPLEMENTS OF AGRICULTURE AND TRADE
PLOUGH SHARE
SHEPHERD'S CROOK
CHARIOTS AND CARTS
NETS AND TRAPS

Fig. 3 Sumerian and Indus Pictograms and Ideograms

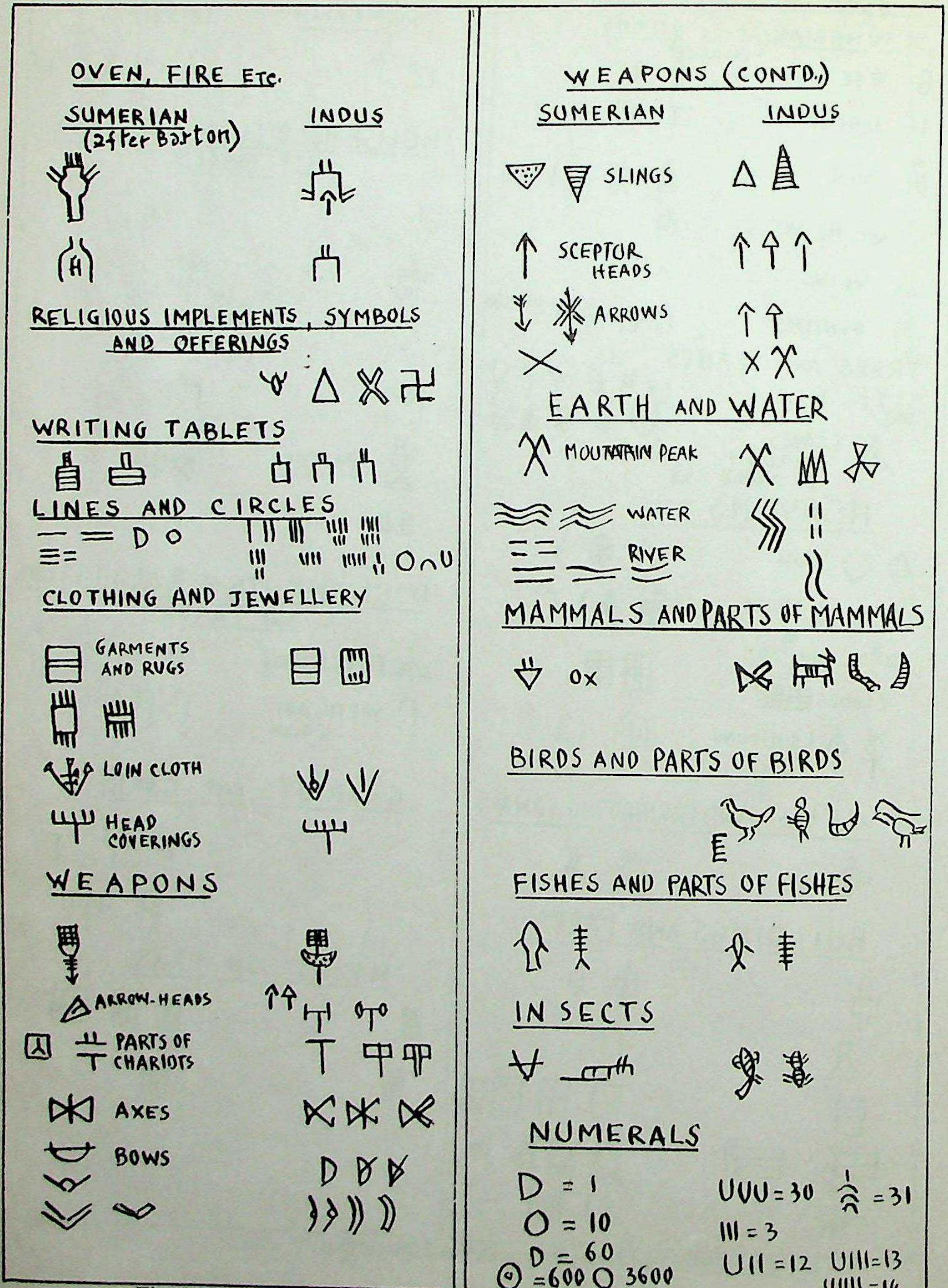
OVEN, FIRE ETC.
SUMERIAN (after Barton)
INDUS
RELIGIOUS IMPLEMENTS, SYMBOLS AND OFFERINGS
WRITING TABLETS
LINES AND CIRCLES
CLOTHING AND JEWELLERY
GARMENTS AND RUGS
LOIN CLOTH
HEAD COVERINGS
WEAPONS
ARROW-HEADS
PARTS OF CHARIOTS
AXES
BOWS
WEAPONS (CONTD.)
SUMERIAN
INDUS
SLINGS
SCEPTOR HEADS
ARROWS
EARTH AND WATER
MOUNTAIN PEAK
WATER
RIVER
MAMMALS AND PARTS OF MAMMALS
OX
BIRDS AND PARTS OF BIRDS
E
FISHES AND PARTS OF FISHES
INSECTS
NUMERALS
D = 1
O = 10
D = 60
⊙ = 600 O 3600
UUU = 30
= 31
III = 3
UII = 12
UIII = 13
UIIII = 14

Fig. 4 Sumerian and Indus Pictograms and Ideograms

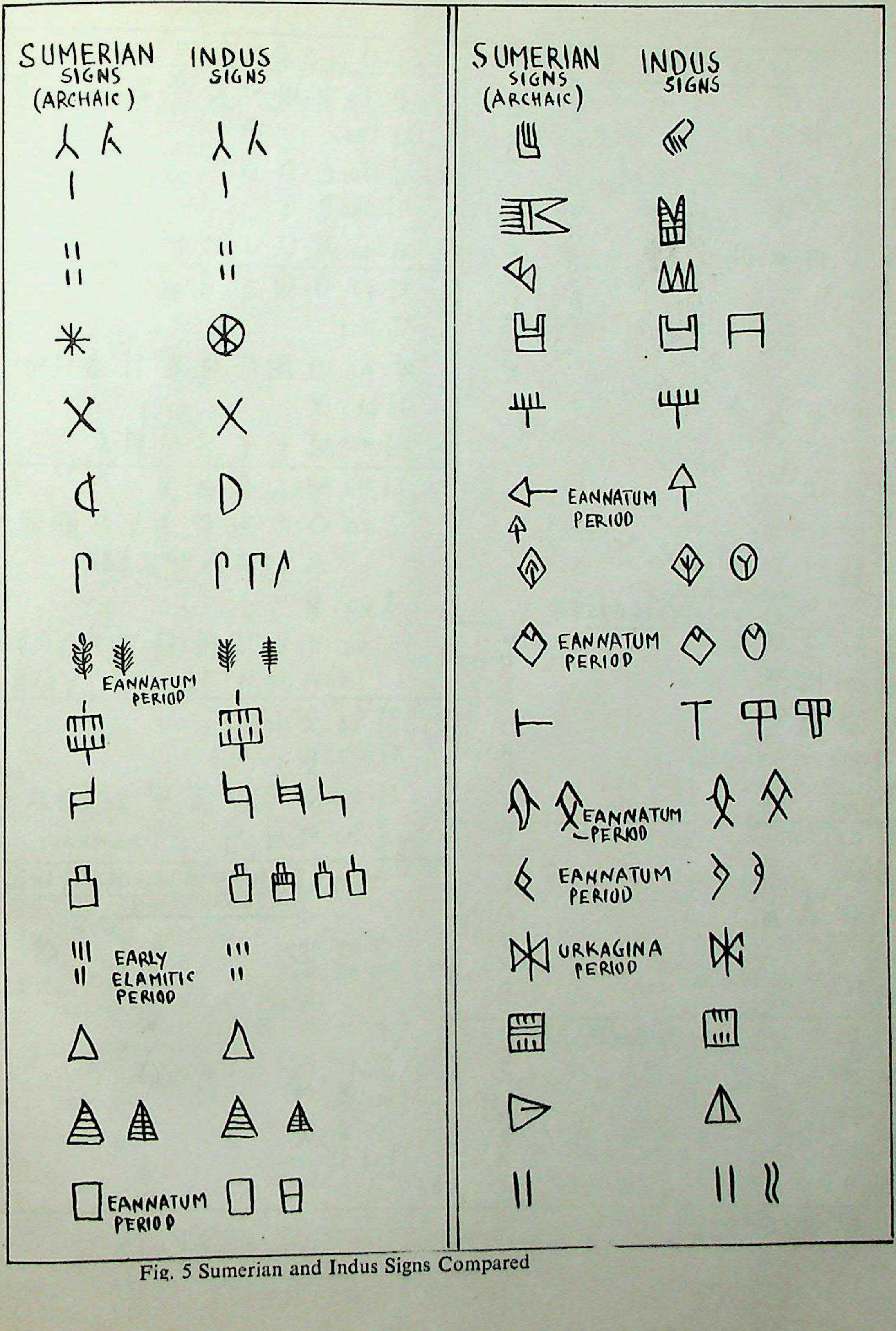
SUMERIAN SIGNS (ARCHAIC)
INDUS SIGNS
EANNATUM PERIOD
EARLY ELAMITIC PERIOD
EANNATUM PERIOD
SUMERIAN SIGNS (ARCHAIC)
INDUS SIGNS
EANNATUM PERIOD
EANNATUM PERIOD
EANNATUM PERIOD
EANNATUM PERIOD
URKAGINA PERIOD

Fig. 5 Sumerian and Indus Signs Compared

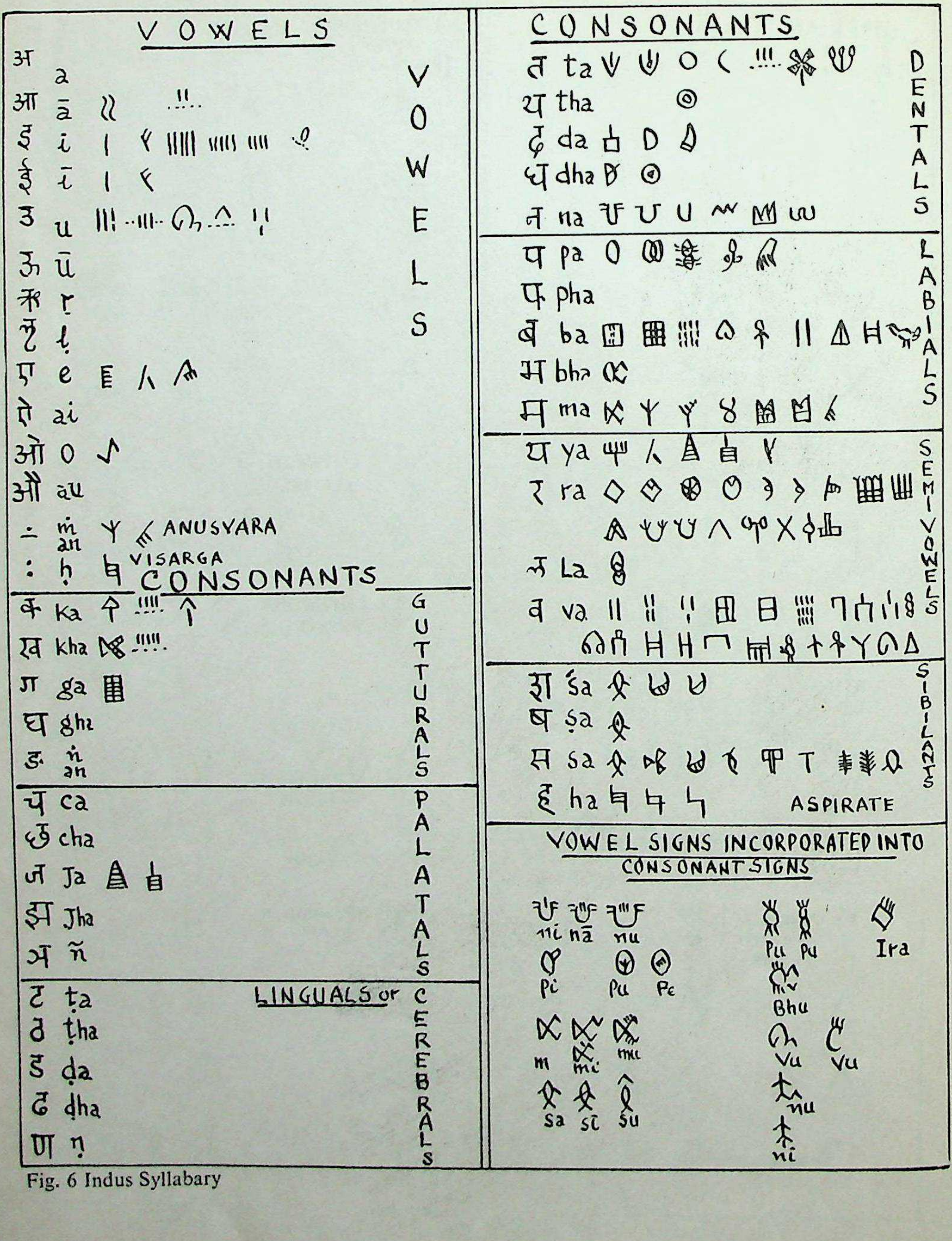
VOWELS
अ a
आ ā
इ i
ई ī
उ u
ऊ ū
ऋ ṛ
ऌ ḷ
ए e
ऐ ai
ओ o
औ au
ं ṁ an ANUSVARA
ः ḥ VISARGA
CONSONANTS
क Ka
ख kha
ग ga
घ gha
ङ ṅ an
GUTTURALS
च ca
छ cha
ज Ja
झ Jha
ञ ñ
PALATALS
ट ṭa
ठ ṭha
ड ḍa
ढ ḍha
ण ṇ
LINGUALS or CEREBRALS
CONSONANTS
त ta
थ tha
द da
ध dha
न na
DENTALS
प pa
फ pha
ब ba
भ bha
म ma
LABIALS
य ya
र ra
ल La
व va
SEMI-VOWELS
श śa
ष ṣa
स sa
SIBILANTS
ह ha
ASPIRATE
VOWEL SIGNS INCORPORATED INTO CONSONANT SIGNS
ni
nā
nu
Pu
Pu
Ira
Pi
Pu
Pe
Bhu
m
mi
mu
Vu
Vu
Sa
si
su
nu
ni

Fig. 6 Indus Syllabary

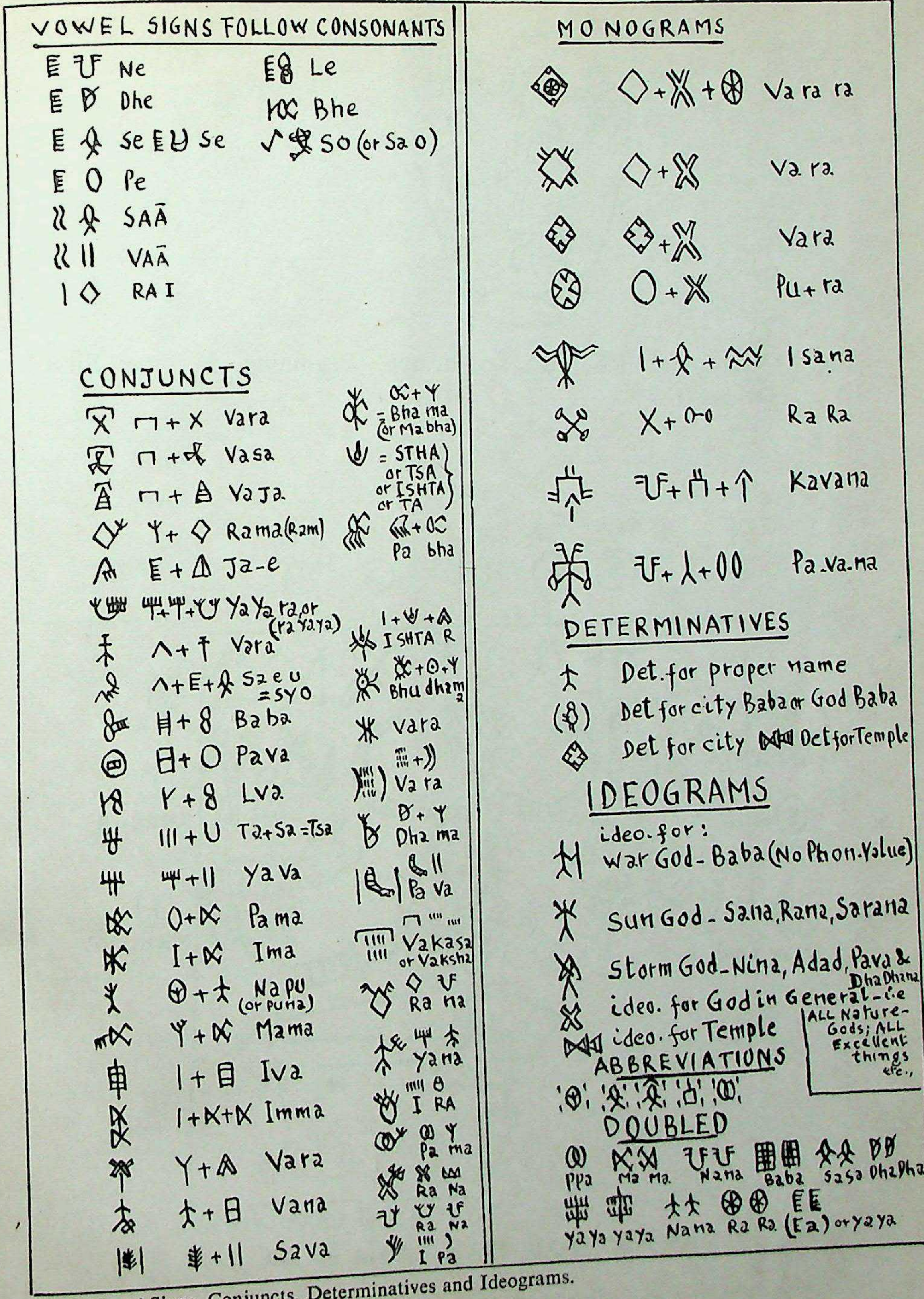
VOWEL SIGNS FOLLOW CONSONANTS
Ne
Le
Dhe
Bhe
Se
Se
SO (or Sa o)
Pe
SAĀ
VAĀ
RAI
CONJUNCTS
Vara
Vasa
Va Ja
Rama (Ram)
Ja-e
Ya Ya ra or (ra yaya)
Vara
Saeu =SYO
Baba
Pava
Lva
Ta+Sa=Tsa
Ya Va
Pa ma
Ima
Na pu (or puna)
Mama
Iva
Imma
Vara
Vana
Sava
= Bha ma (or Ma bha)
= STHA or TSA or ISHTA or TA
Pa bha
ISHTA R
Bhu dham
vara
Va ra
Dha ma
Pa Va
Vakasa or Vaksha
Ra na
Yana
I RA
Pa ma
Ra Na
Ra Na
I Pa
MONOGRAMS
Va ra ra
Va ra
Vara
Pu+ra
Isaṇa
Ra Ra
Kavana
Pa.va.ma
DETERMINATIVES
Det. for proper name
Det for city Baba or God Baba
Det for city
Det for Temple
IDEOGRAMS
ideo. for:
War God - Baba (No Phon. Value)
Sun God - Sana, Rana, Sarana
Storm God_Nina, Adad, Pava & Dha Dhana
ideo. for God in General - i.e
ALL Nature-Gods; ALL Excellent things etc.,
ideo. for Temple
ABBREVIATIONS
DOUBLED
Ppa
Ma Ma
Nana
Baba
Sasa
DhaDha
Yaya
Yaya
Nana
Ra Ra
(Ea) or yaya

Fig. 7 Vowel Signs, Conjuncts, Determinatives and Ideograms.

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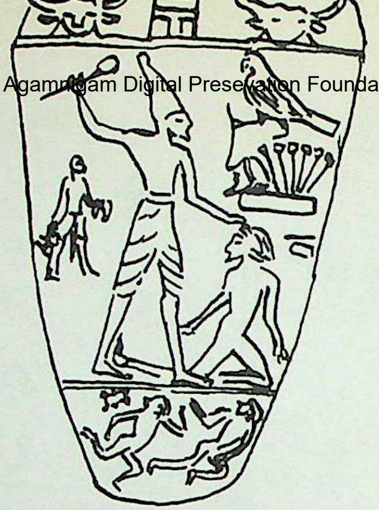


Fig. 8 Ceremonial Palettle of Narmer (Beginning of the First Dynasty)

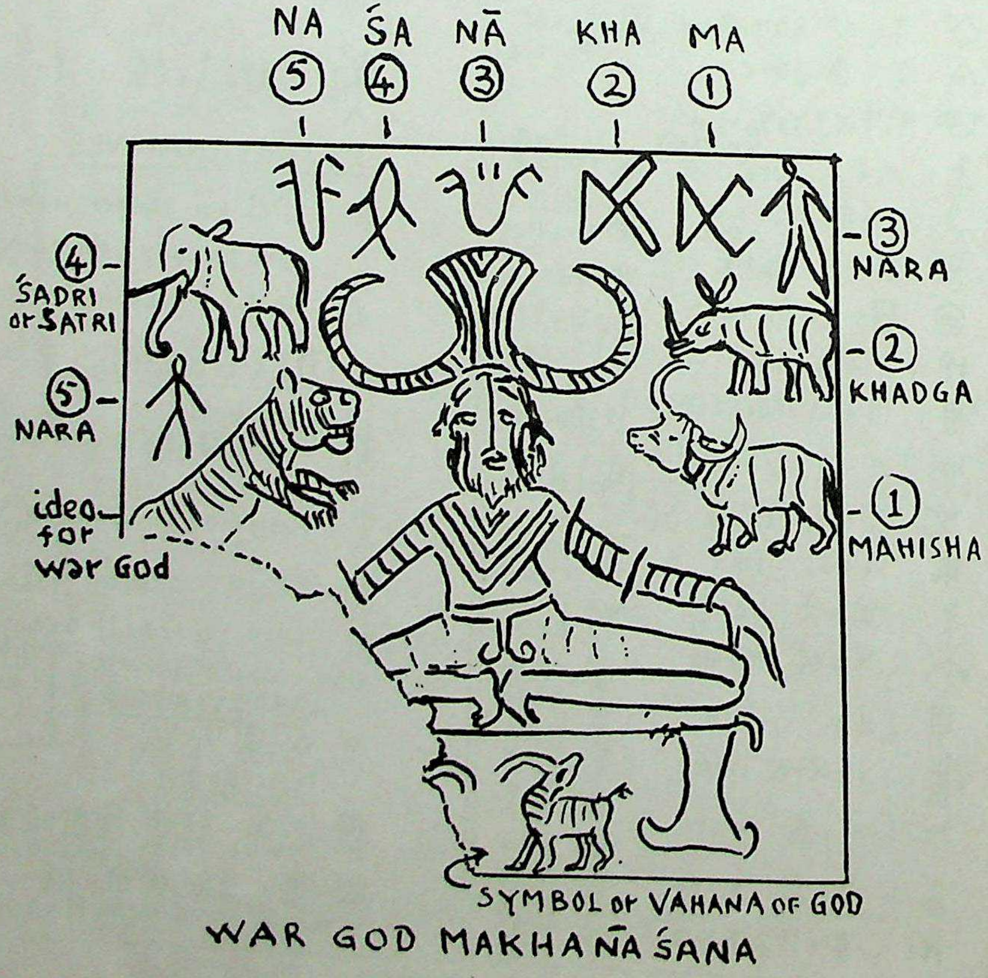
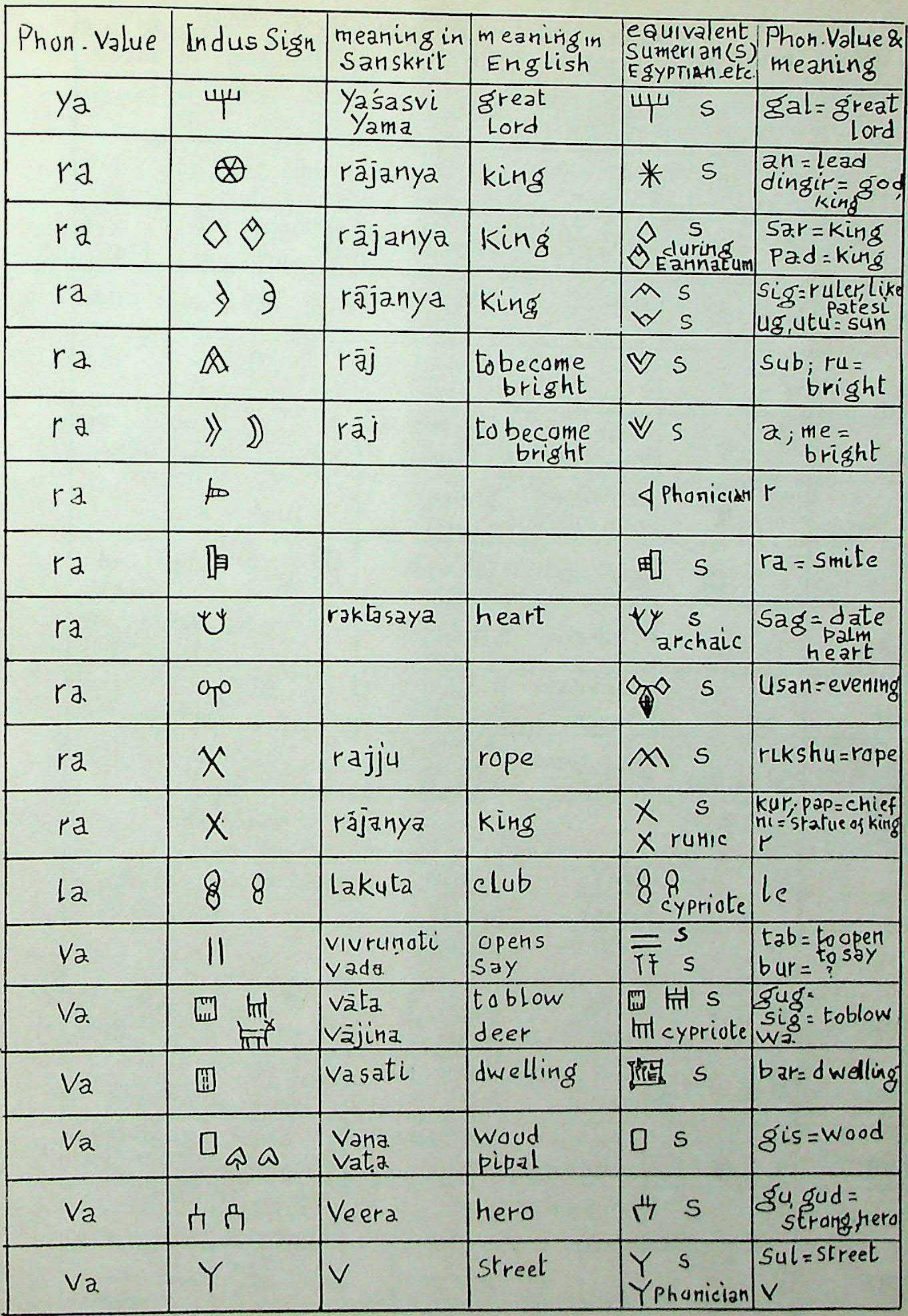
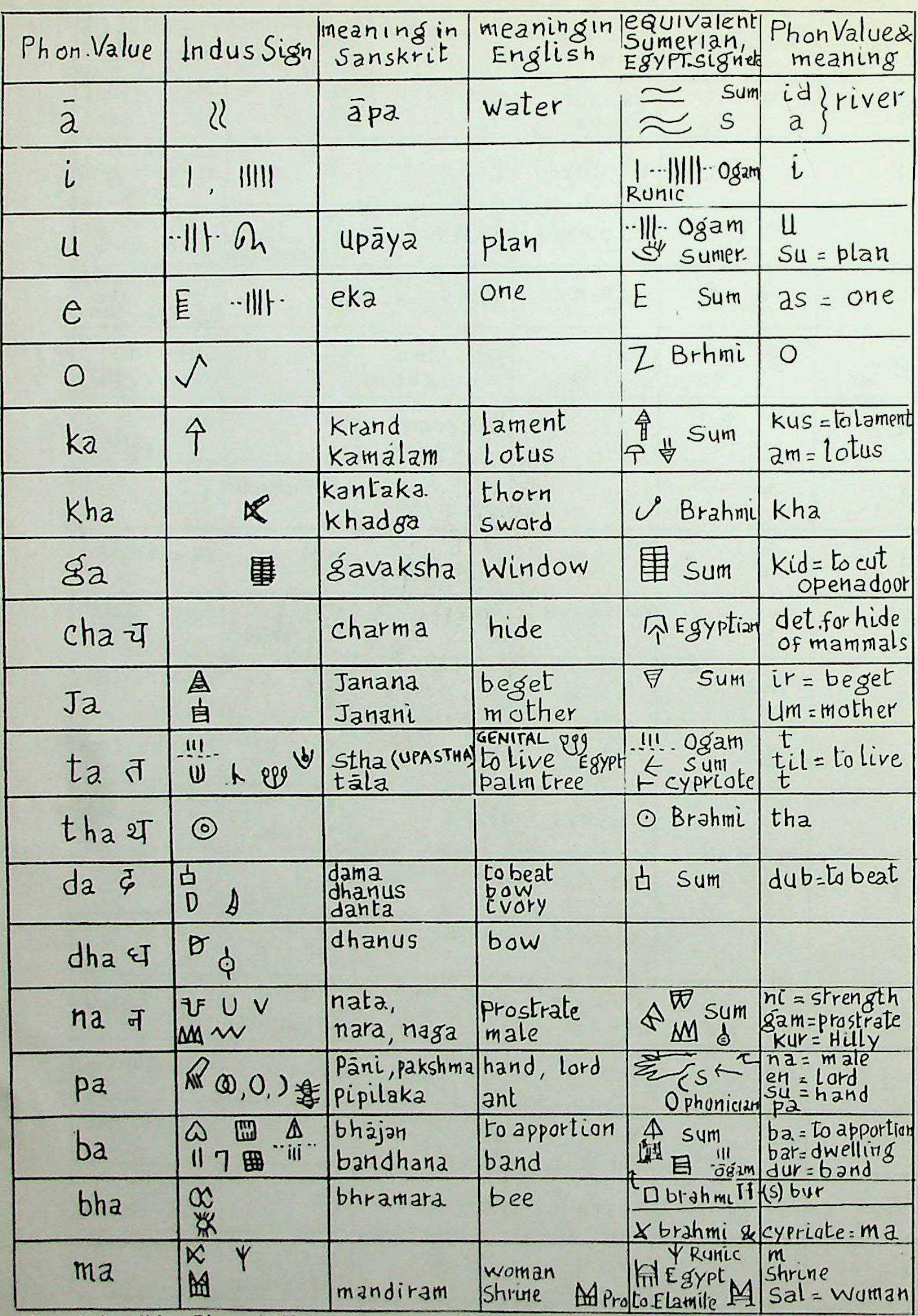

NA ŚA NĀ KHA MA
⑤ ④ ③ ② ①
④ ŚADRI or SATRI
⑤ NARA
idea for war God
③ NARA
② KHADGA
① MAHISHA
SYMBOL of VAHANA of GOD
WAR GOD MAKHANĀŚANA

Fig. 9 War God Makhanasana



Phon. Value	Indus Sign	meaning in Sanskrit	meaning in English	equivalent Sumerian (S) Egyptian etc.	Phon. Value & meaning
ya		Yaśasvi Yama	great Lord	S	gal = great lord
ra		rājanya	king	S	an = lead dingir = god, king
ra		rājanya	King	S during Eannatum	Sar = King Pad = king
ra		rājanya	King	S S	Sig = ruler, like patesi ug, utu = sun
ra		rāj	to become bright	S	Sub; ru = bright
ra		rāj	to become bright	S	a; me = bright
ra				Phonician	r
ra				S	ra = Smite
ra		raktasaya	heart	S archaic	Sag = date palm heart
ra				S	Usan = evening
ra		rajju	rope	S	rikshu = rope
ra		rājanya	king	S runic	kur, pap = chief ni = statue of king r
la		Lakuta	club	cypriote	le
Va		vivrunoti vada	opens Say	S S	tab = to open bur = to say ?
Va		vāta vājina	to blow deer	S cypriote	gug = sig = to blow wa.
Va		vasati	dwelling	S	bar = dwelling
Va		Vana Vata	wood pipal	S	gis = wood
Va		Veera	hero	S	gu, gud = strong, hero
Va		V	Street	S Phonician	Sul = Street V

Fig. 10 Ascribing Phonetic Values



Phon. Value	Indus Sign	meaning in Sanskrit	meaning in English	equivalent Sumerian, Egypt.sign etc	Phon Value & meaning
ā		āpa	water	Sum S	id } river a }
i				Ogam Runic	i
u		upāya	plan	Ogam Sumer.	u Su = plan
e		eka	one	E Sum	as = one
o				Brhmi	o
ka		Krand Kamalam	lament lotus	Sum	kus = to lament am = lotus
kha		kantaka. khadga	thorn sword	Brahmi	kha
ga		gavaksha	Window	Sum	Kid = to cut open a door
cha च		charma	hide	Egyptian	det. for hide of mammals
Ja		Janana Janani	beget mother	Sum	ir = beget Um = mother
ta त		Stha (UPASTHA) tāla	GENITAL to live Egypt palm tree	Ogam Sum cypriote	t til = to live t
tha थ				Brahmi	tha
da द		dama dhanus danta	to beat bow ivory	Sum	dub = to beat
dha ध		dhanus	bow		
na न		nata, nara, naga	Prostrate male	Sum	ni = strength gam = prostrate kur = Hilly
pa		Pāni, pakshma pipilaka	hand, lord ant	S Phonician	na = male en = Lord su = hand pa
ba		bhājan bandhana	to apportion band	Sum ogam	ba = to apportion bar = dwelling dur = band
bha		bhramara	bee	brahmi brahmi &	(S) bur cypriate : ma
ma		mandiram	woman Shrine Pro	Runic Egypt to.Elamite	m Shrine Sal = woman

Fig. 11 Ascribing Phonetic Values

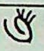
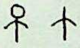
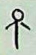
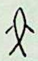
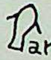
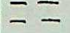
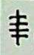
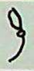
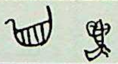
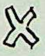
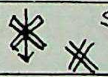
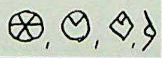
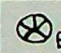
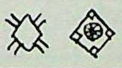
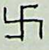
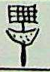
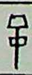
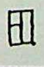
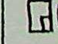
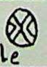
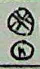
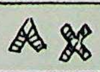
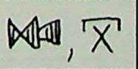
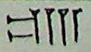
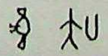
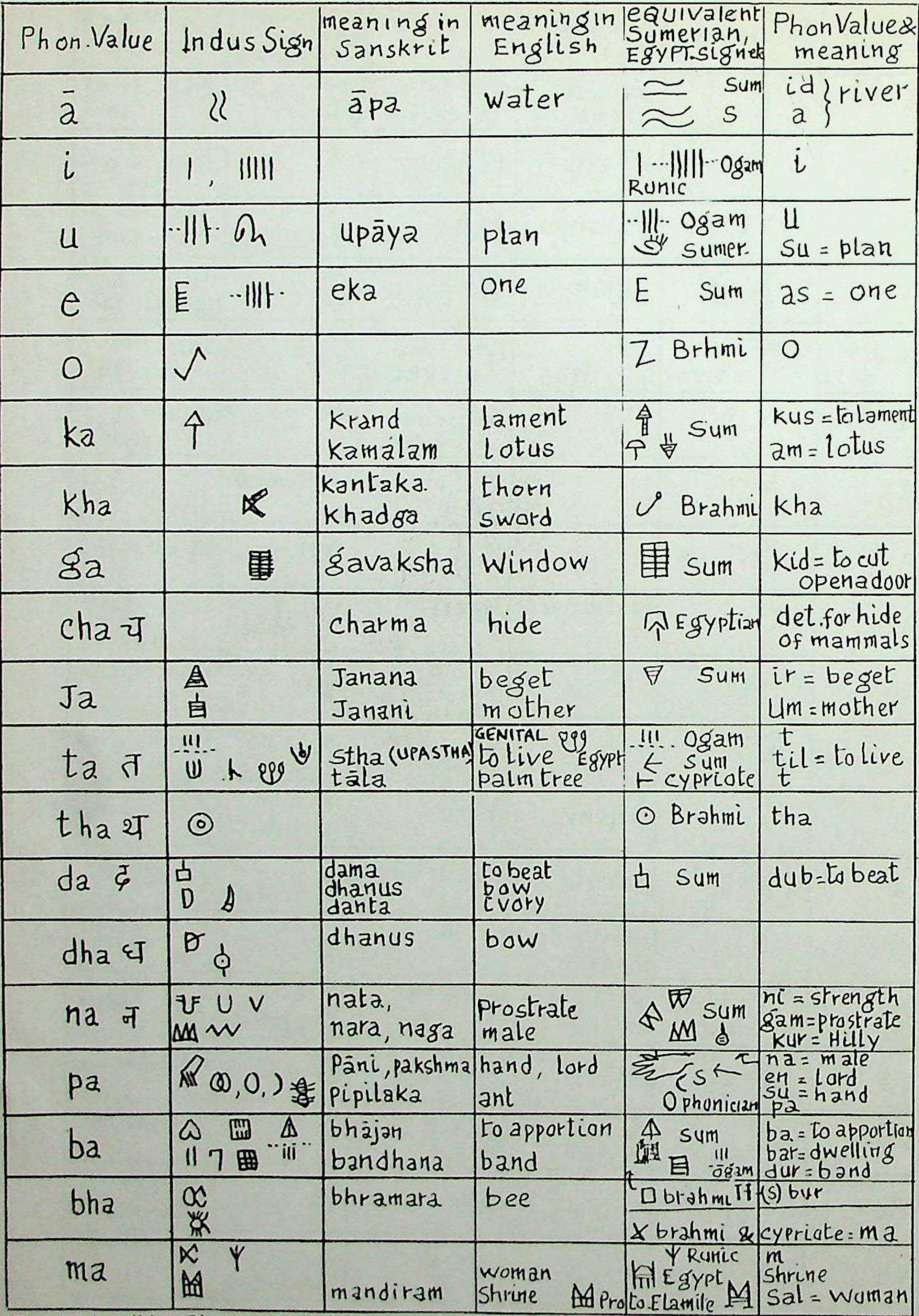
Phon. Value	Indus Sign	meaning in Sanskrit	meaning in English	equivalent Sumerian (S) Egyptian etc.	Phon. Value & meaning
Va		vāhini	veins	S	be, bad = veins
Va		Udara	Womb	S	mug = Womb
Va		Vriddhi	increase	 S	Su = increase
Va		bandh	tie	 Egyptian	anh = tie, mirror, Life.
Sa		subha Salki	auspicious fish	 S archaic	Za = Jewel Ṣa = bright, good
Sa		silā subha	stone good	 S	za = stone, Jewel Ṣa = good
Sa				 Phonician	S
Sa		Saroja	Lotus	 Egypt.	SSn = det. for Lotus
Śa		Śakuni Śalabha	hawk Locust		
ideograms. for god & gold no Phon. value		deva Kshemankara	god benevolent	 S S	mu = god, King Kas = road, two
ideo. for god & king		deva rajanya	god King	 Egyptian	dwe = ideo. for nether world
ideo. for temple					
ideo. for sacred land		ideo. for Vana land			
ideo. for Kingship		rājalānchhana	royal & battle standard	 Egyptian	Sekhem = standard Shm = ″
ideo for Land Vana				 Egyptian	ideo. for castle; temple
ideo. for town, citadel,	 temple			 Egyptian ″	ideo. for Village ideo. Hierakano-polis
ideo for gold				S	gushkin = gold
ideo & det for city, temple, building					é = house det. for names of temples & bldgs.
ideo for tribe		babhru	mangoose		

Fig. 12 Ascribing Phonetic Values



Phon. Value	Indus Sign	meaning in Sanskrit	meaning in English	equivalent Sumerian, Egypt. sign etc	Phon Value & meaning
ā	≀≀	āpa	water	Sum S	id a } river
i	I , IIIII			I ··· IIIII ·· Ogam Runic	i
u	··III·	upāya	plan	··III·· Ogam Sumer.	u Su = plan
e	E ··IIII·	eka	one	E Sum	as = one
o	√			Z Brhmi	O
ka	↑	Krand Kamalam	lament lotus	Sum	kus = to lament am = lotus
kha		kantaka. khadga	thorn sword	Brahmi	kha
ga		gavaksha	Window	Sum	Kid = to cut open a door
cha च		charma	hide	Egyptian	det. for hide of mammals
Ja		Janana Janani	beget mother	Sum	ir = beget Um = mother
ta त		Stha (UPASTHA) tāla	GENITAL to live Egypt palm tree	..!!!.. Ogam ← Sum Cypriote	t til = to live t
tha थ	⊙			⊙ Brahmi	tha
da द	D	dama dhanus danta	to beat bow ivory	Sum	dub = to beat
dha ध		dhanus	bow		
na न	U V	nata, nara, naga	Prostrate male	Sum	ni = strength gam = prostrate Kur = Hilly
pa	0,0,)	Pāni, pakshma pipilaka	hand, lord ant	S ← O phonician	na = male en = Lord Su = hand pa
ba	II 7 ··iii··	bhājan bandhana	to apportion band	Sum III ogam	ba = to apportion bar = dwelling dur = band
bha		bhramara	bee	□ brahmi X brahmi &	(S) bur cypriote = ma
ma	Y	mandiram	woman Shrine Pro	Y Runic Egypt to. Elamite	m Shrine Sal = Woman

Fig. 11 Ascribing Phonetic Values

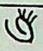
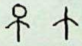
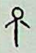
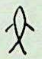
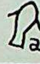
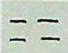
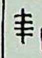
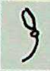
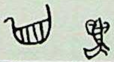
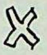
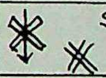
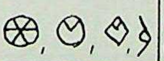
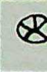
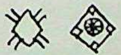
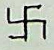
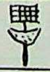
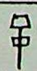
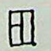
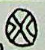
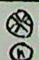
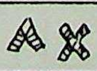
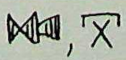
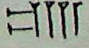
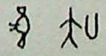
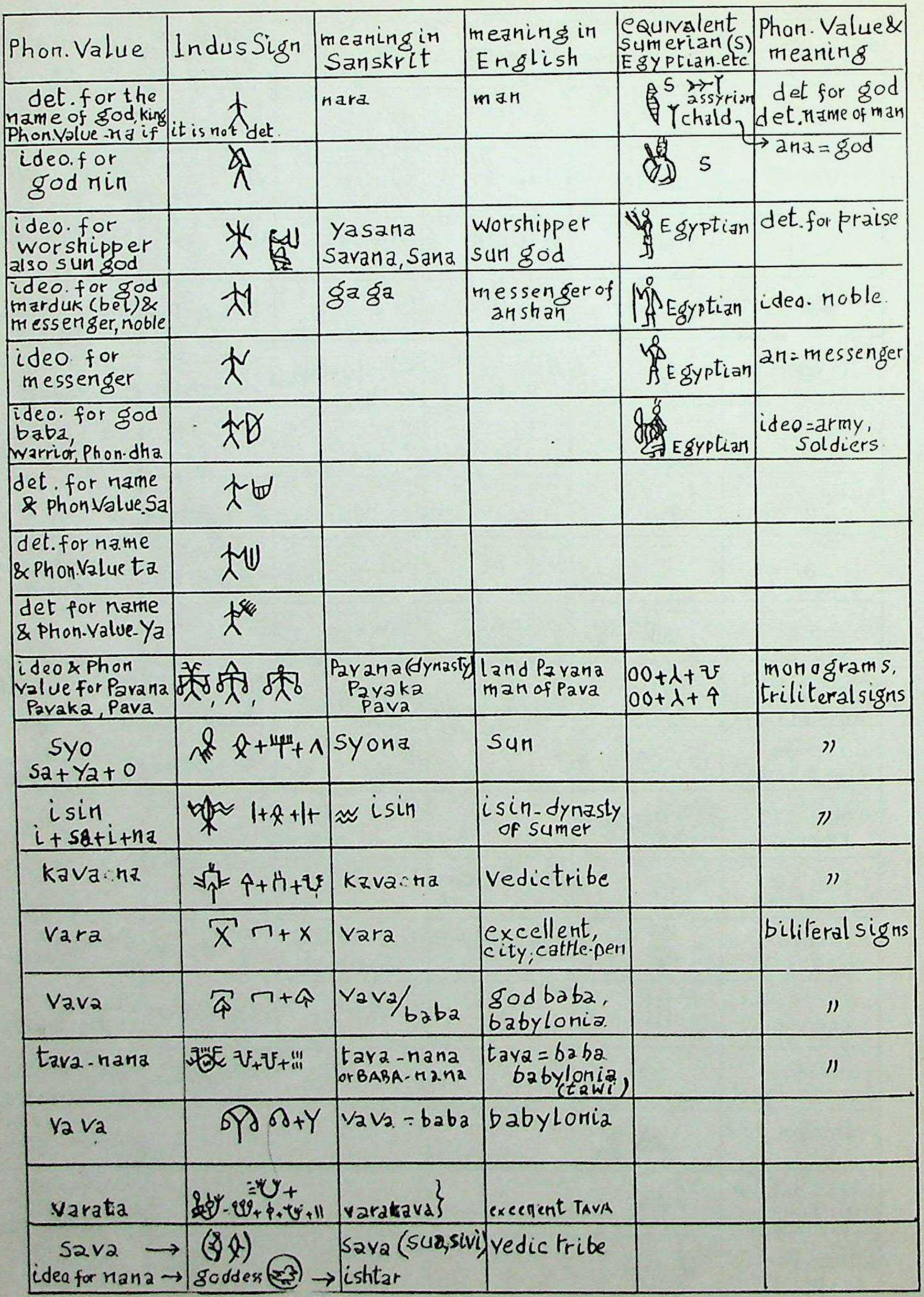
Phon. Value	Indus Sign	meaning in Sanskrit	meaning in English	equivalent Sumerian (S) Egyptian etc.	Phon. Value & meaning
Va		vāhini	veins	S	be, bad = veins
Va		Udara	Womb	S	mug = Womb
Va		vriddhi	increase	 S	Su = increase
Va		bandh	tie	 Egyptian	anh = tie, mirror, Life.
Sa		subha Salki	auspicious fish	 S archaic	za = Jewel Ṣa = bright, good
Sa		silā subha	stone good	 S	za = stone; Jewel Ṣa = good
Sa				 Phonician	S
Sa		Saroja	Lotus	 Egypt.	SSn = det. for lotus
Śa		Śakuni Śalabha	hawk Locust		
ideograms. for god & Gold no Phon. Value		deva Kshemankara	god benevolent	 S S	mu = god, King Kas = road, two
ideo. for god & king		deva rajanya	god King	 Egyptian	dwe = ideo. for nether world
ideo. for temple					
ideo. for Sacred land		ideo. for Vana land			
ideo. for kingship		rājalānchhana	royal & battle standard	 Egyptian	Sekhem = standard Shm = "
ideo for land Vana				Egyptian	ideo. for castle, temple
ideo. for town, citadel,	 temple			 Egyptian "	ideo. for Village ideo. Hierakano-polis
ideo for gold				S	gushkin = gold
ideo & det for city, temple, building					é = house det. for names of temples & bldgs.
ideo for tribe		babhru	mangoose		

Fig. 12 Ascribing Phonetic Values



Phon. Value	Indus Sign	meaning in Sanskrit	meaning in English	equivalent Sumerian (S) Egyptian etc	Phon. Value & meaning
det. for the name of god, king Phon.Value -na if	it is not det.	nara	man	S assyrian chald.	det for god det. name of man → ana = god
ideo. for god nin				S	
ideo. for worshipper also sun god		Yasana Savana, Sana	worshipper sun god	Egyptian	det. for praise
ideo. for god marduk (bel) & messenger, noble		ga ga	messenger of anshan	Egyptian	ideo. noble.
ideo for messenger				Egyptian	an = messenger
ideo. for god baba, warrior, Phon-dha				Egyptian	ideo = army, Soldiers
det. for name & phon.Value Sa					
det. for name & Phon.Value ta					
det for name & Phon-Value-Ya					
ideo & Phon value for Pavana Pavaka, Pava		Pavana (dynasty) Payaka Pava	land Pavana man of Pava	00 + λ + 00 + λ +	monograms, triliteral signs
Syo sa + Ya + o		Syona	Sun		"
isin i + sa + i + na		isin	isin- dynasty of Sumer		"
kava:na		kava:na	Vedic tribe		"
vara		vara	excellent, city, cattle-pen		biliteral signs
Vava		vava/baba	god baba, babylonia.		"
tava-nana		tava-nana or BABA-nana	tava = baba babylonia (tawi)		"
va va		vava = baba	babylonia		
varata		varakava }	excellent TAVA		
Sava → idea for nana →	goddess →	Sava (sua, sivi) ishtar	vedic tribe		

Fig. 13 Ascribing Phonetic Values

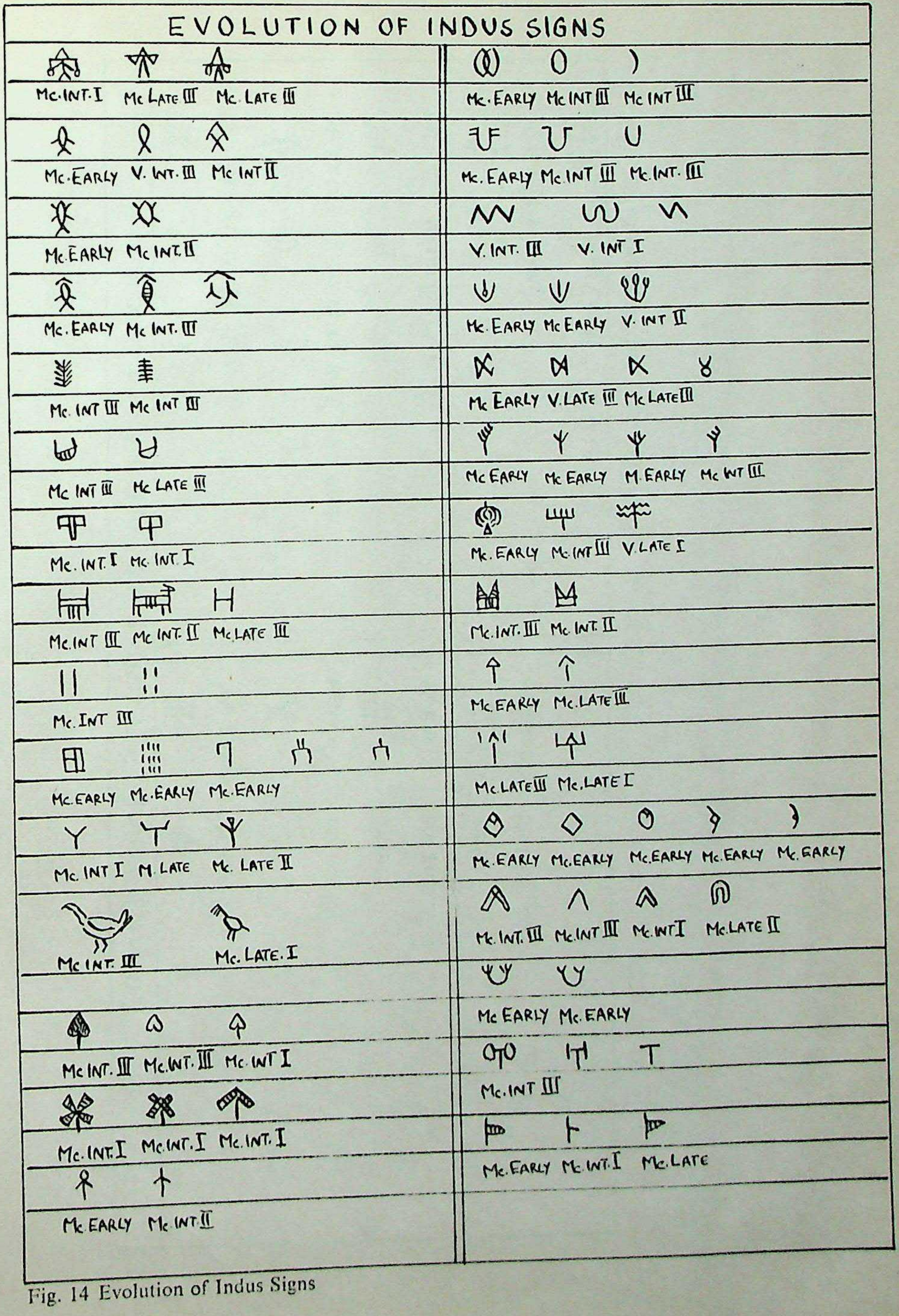

EVOLUTION OF INDUS SIGNS
Mc.INT.I Mc LATE III Mc. LATE III
Mc.EARLY V. INT. III Mc INT II
Mc.EARLY Mc INT. II
Mc.EARLY Mc INT. III
Mc. INT III Mc INT III
Mc INT III Mc LATE III
Mc. INT. I Mc. INT. I
Mc.INT III Mc INT. II Mc.LATE III
Mc. INT III
Mc.EARLY Mc.EARLY Mc.EARLY
Mc. INT I M. LATE Mc. LATE II
Mc INT. III Mc. LATE. I
Mc INT. III Mc.INT. III Mc. INT I
Mc. INT. I Mc.INT. I Mc. INT. I
Mc EARLY Mc. INT. II
Mc. EARLY Mc INT III Mc INT III
Mc. EARLY Mc.INT III Mc.INT. III
V. INT. III V. INT I
Mc. EARLY Mc EARLY V. INT II
Mc EARLY V. LATE III Mc LATE III
Mc EARLY Mc EARLY M. EARLY Mc INT III
Mc. EARLY Mc.INT III V.LATE I
Mc.INT. III Mc. INT. II
Mc.EARLY Mc.LATE III
Mc.LATE III Mc.LATE I
Mc. EARLY Mc.EARLY Mc.EARLY Mc.EARLY Mc. EARLY
Mc. INT. III Mc.INT III Mc.INT I Mc.LATE II
Mc EARLY Mc. EARLY
Mc. INT III
Mc. EARLY Mc. INT. I Mc. LATE

Fig. 14 Evolution of Indus Signs

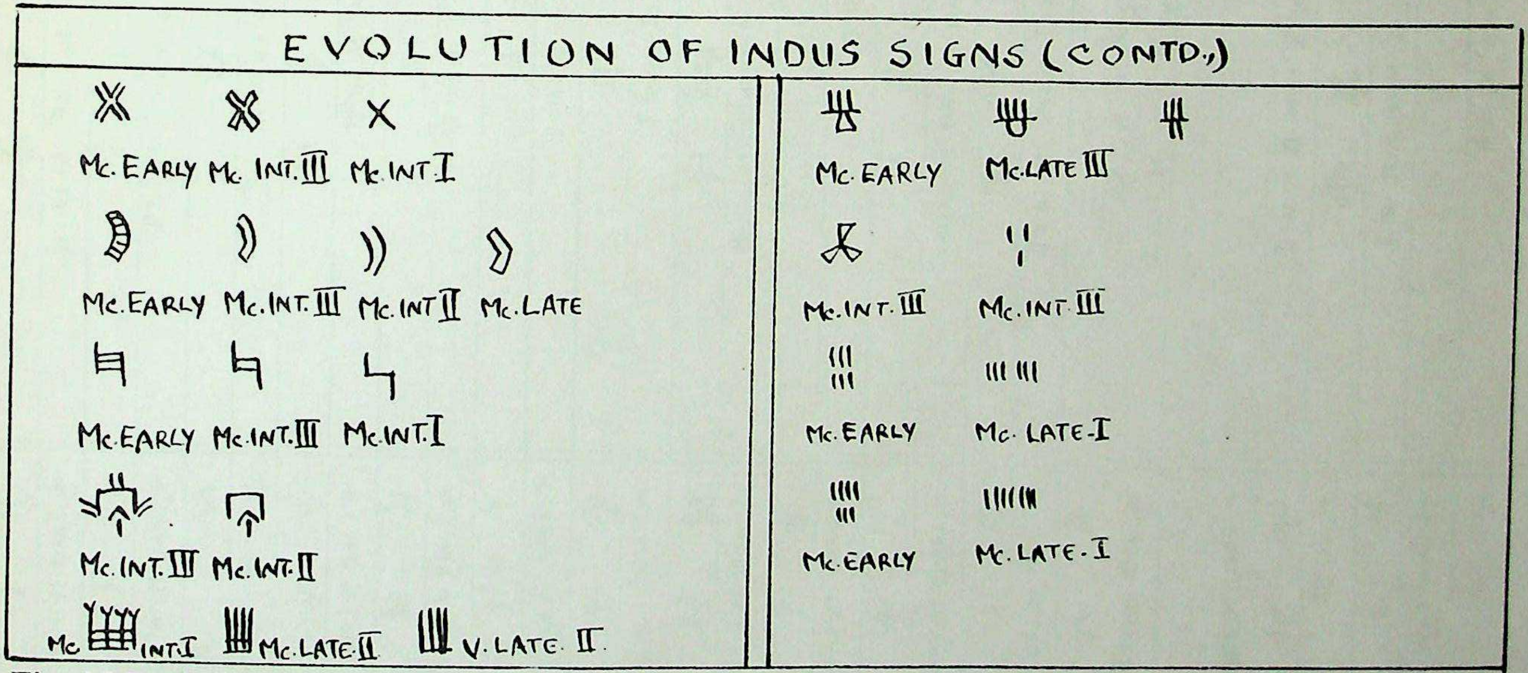
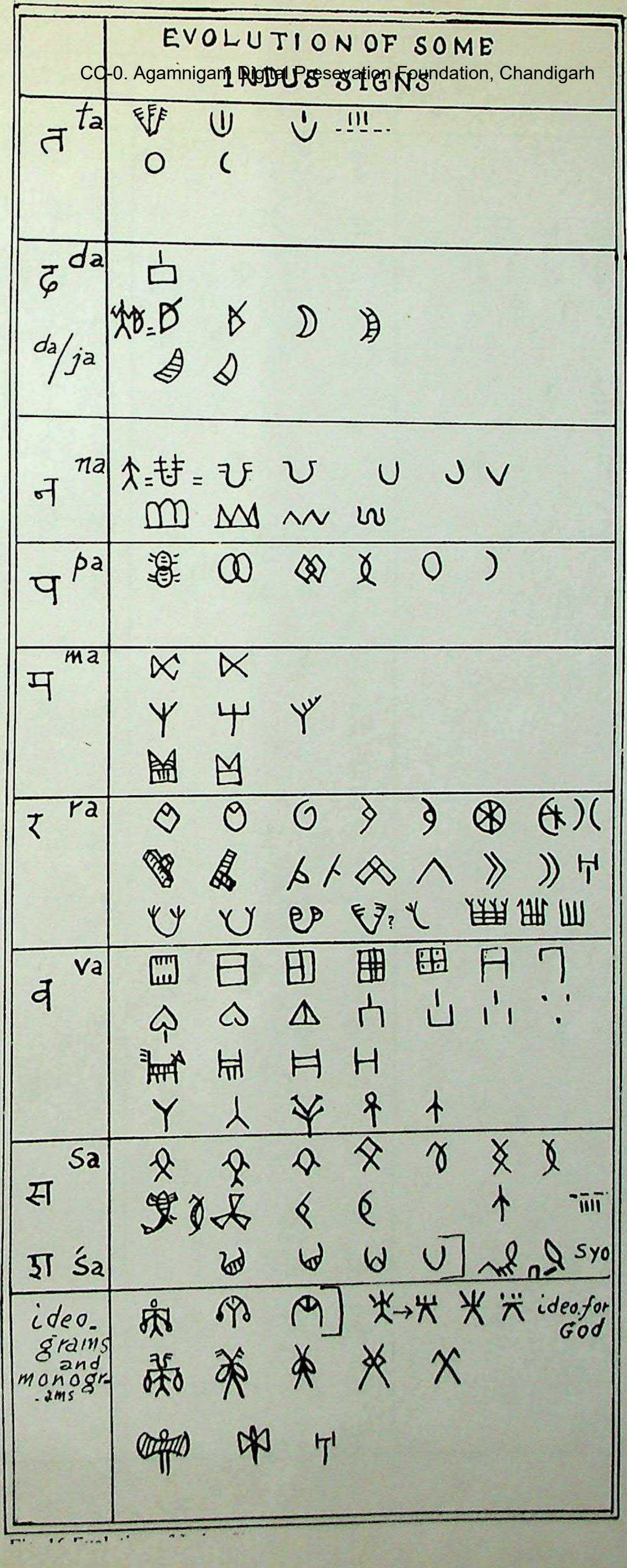

EVOLUTION OF INDUS SIGNS (CONTD.)
Mc. EARLY
Mc. INT. III
Mc. INT. I
Mc. EARLY
Mc. INT. III
Mc. INT II
Mc. LATE
Mc. EARLY
Mc. INT. III
Mc. INT. I
Mc. INT. III
Mc. INT. II
Mc INT. I
Mc. LATE. II
V. LATE. II.
Mc. EARLY
Mc. LATE III
Mc. INT. III
Mc. INT. III
Mc. EARLY
Mc. LATE-I
Mc. EARLY
Mc. LATE-I

Fig. 15 Evolution of Indus Signs (Contd.)


EVOLUTION OF SOME INDUS SIGNS
त ta
द da
da/ja
न na
प pa
म ma
र ra
व va
स Sa
श Śa
syo
ideo-grams and monogr-ams
ideo. for God

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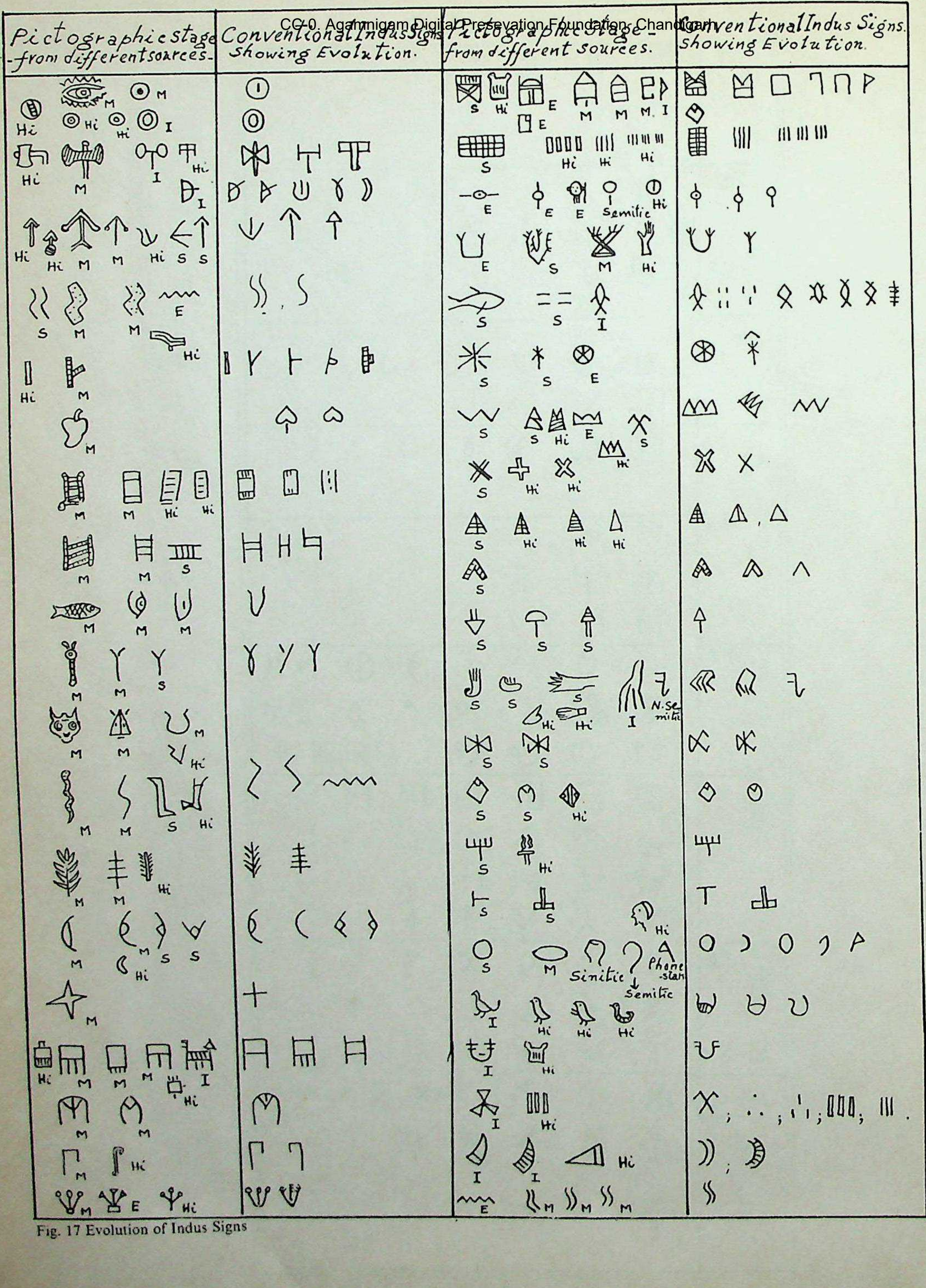
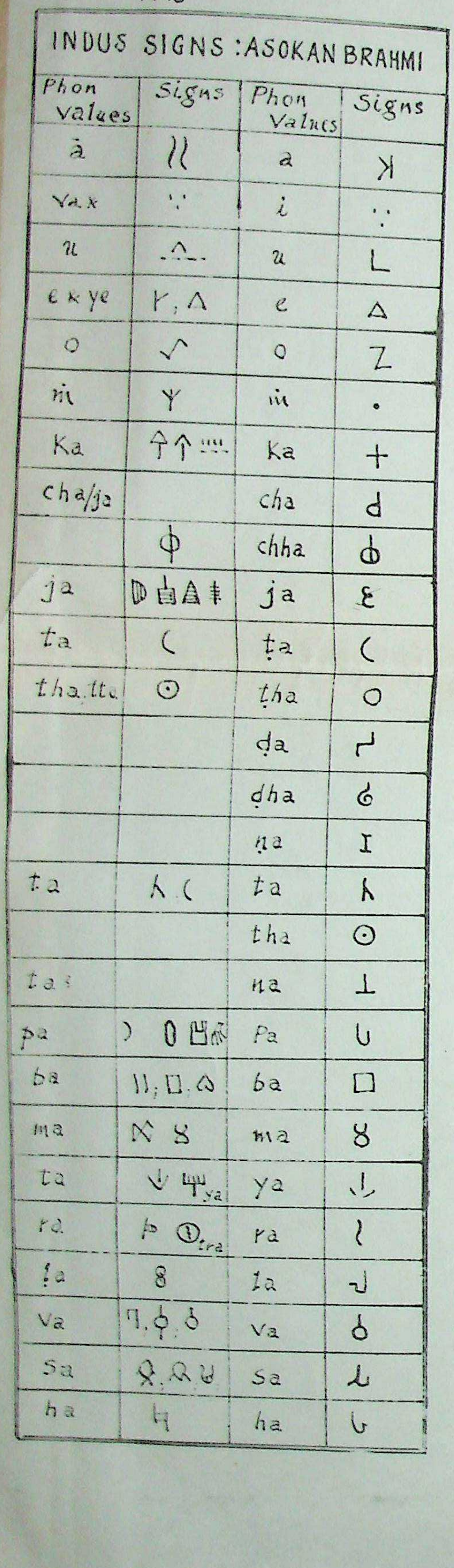

Pictographic stage -from different sources-
Conventional Indus Signs showing Evolution.
Pictographic stage - from different sources.
Conventional Indus Signs. showing Evolution.
Hi
M
I
S
E
Semitic
N. Semitic
Phonetian
Sinitic

Fig. 17 Evolution of Indus Signs

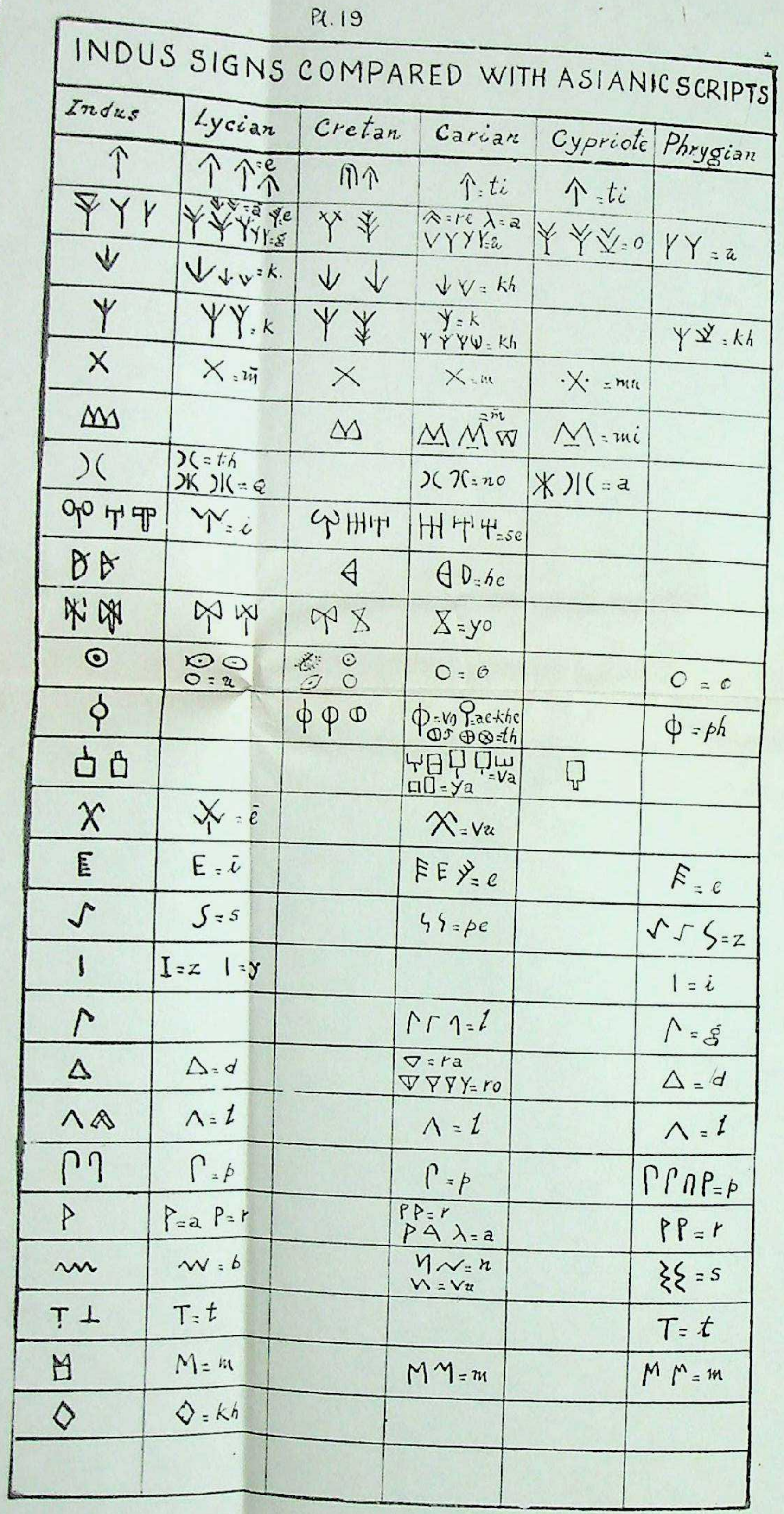
Pl. 18

INDUS SIGNS : ASOKAN BRAHMI


Phon Values
Signs
Phon Values
Signs
à
va.x
u
e k ye
o
ṁ
Ka
cha/ja
ja
ta
tha.ttu
ta
ta
pa
ba
ma
ta
ra
ḷa
va
sa
ha
a
i
u
e
o
ṁ
Ka
cha
chha
ja
ṭa
ṭha
ḍa
ḍha
ṇa
ta
tha
na
Pa
ba
ma
ya
ra
ḷa
va
sa
ha

Pl. 19

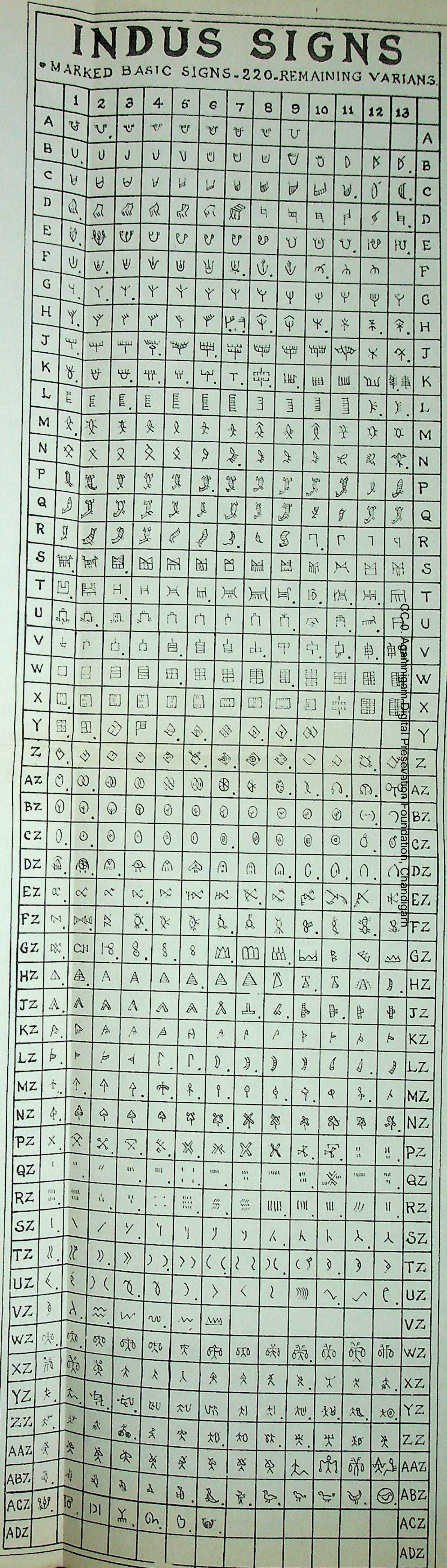
INDUS SIGNS COMPARED WITH ASIANIC SCRIPTS


Indus
Lycian
Cretan
Carian
Cypriote
Phrygian
ti
a
kh
k
mi
no
se
he
yo
ph
va
ya
e
i
s
pe
z
g
d
ra
ro
l
p
r
b
n
t
m
kh

Pl. 20

INDUS SIGNS

• MARKED BASIC SIGNS - 220 - REMAINING VARIANS.


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
S
T
U
V
W
X
Y
Z
AZ
BZ
CZ
DZ
EZ
FZ
GZ
HZ
JZ
KZ
LZ
MZ
NZ
PZ
QZ
RZ
SZ
TZ
UZ
VZ
WZ
XZ
YZ
ZZ
AAZ
ABZ
ACZ
ADZ

DESCENT AND SPREAD of THE ALPHABET

PLATE 21

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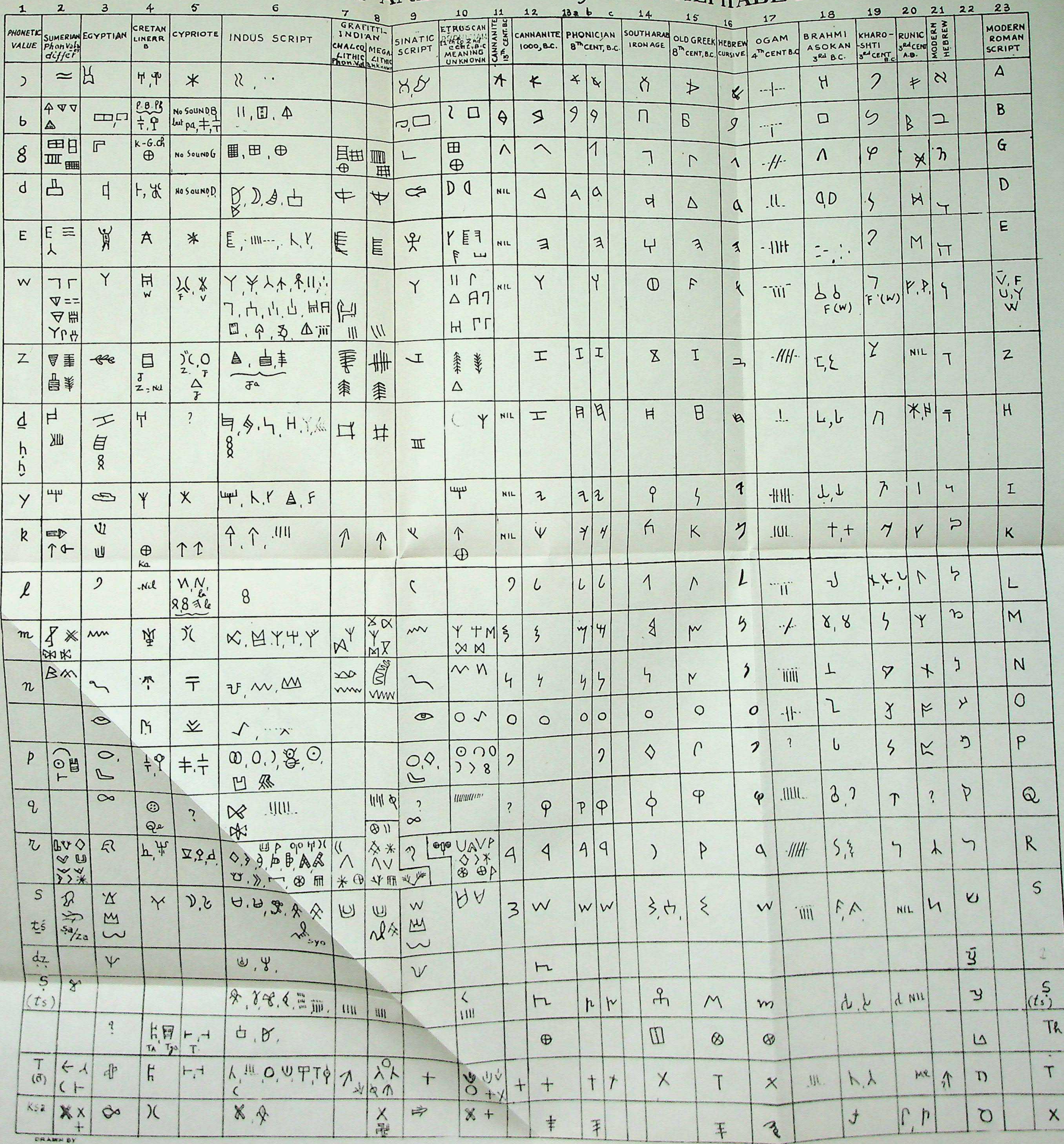

1 PHONETIC VALUE
2 SUMERIAN Phon Valy differ
3 EGYPTIAN
4 CRETAN LINERR B
5 CYPRIOTE
6 INDUS SCRIPT
7 GRAFITTI-INDIAN CHALCO LITHIC Phon.Val
8 MEGA-LITHIC Unknown
9 SINATIC SCRIPT
10 ETRUSCAN 8th to 2nd cent. B.C. MEANING UNKNOWN
11 CANNANITE 13th CENT. B.C.
12 CANNANITE 1000 B.C.
13a b c PHONICIAN 8th CENT. B.C.
14 SOUTHARAB IRON AGE
15 OLD GREEK 8th CENT. B.C.
16 HEBREW CURSIVE
17 OGAM 4th CENT B.C.
18 BRAHMI ASOKAN 3rd B.C.
19 KHARO-SHTI 3rd CENT. B.C.
20 RUNIC 3rd CENT A.D.
21 MODERN HEBREW
22
23 MODERN ROMAN SCRIPT
ɔ
b
g
d
E
w
Z
ḍ h ḥ
Y
k
l
m
n
p
q
r
S tś
dz
Ṣ (ts)
T (ṭ)
Ksa
No SOUND B but pa
k-G.ch
No SOUND G
No SOUND D
Z = Nil
Ka
Nil
Qe
Sa/Za
syo
TA Tyo T.
NIL
F (W)
F' (W)
A
B
G
D
E
V, F U, Y W
Z
H
I
K
L
M
N
O
P
Q
R
S
S (ts)
Th
T
X

DRAWN BY R.S. MOTE.

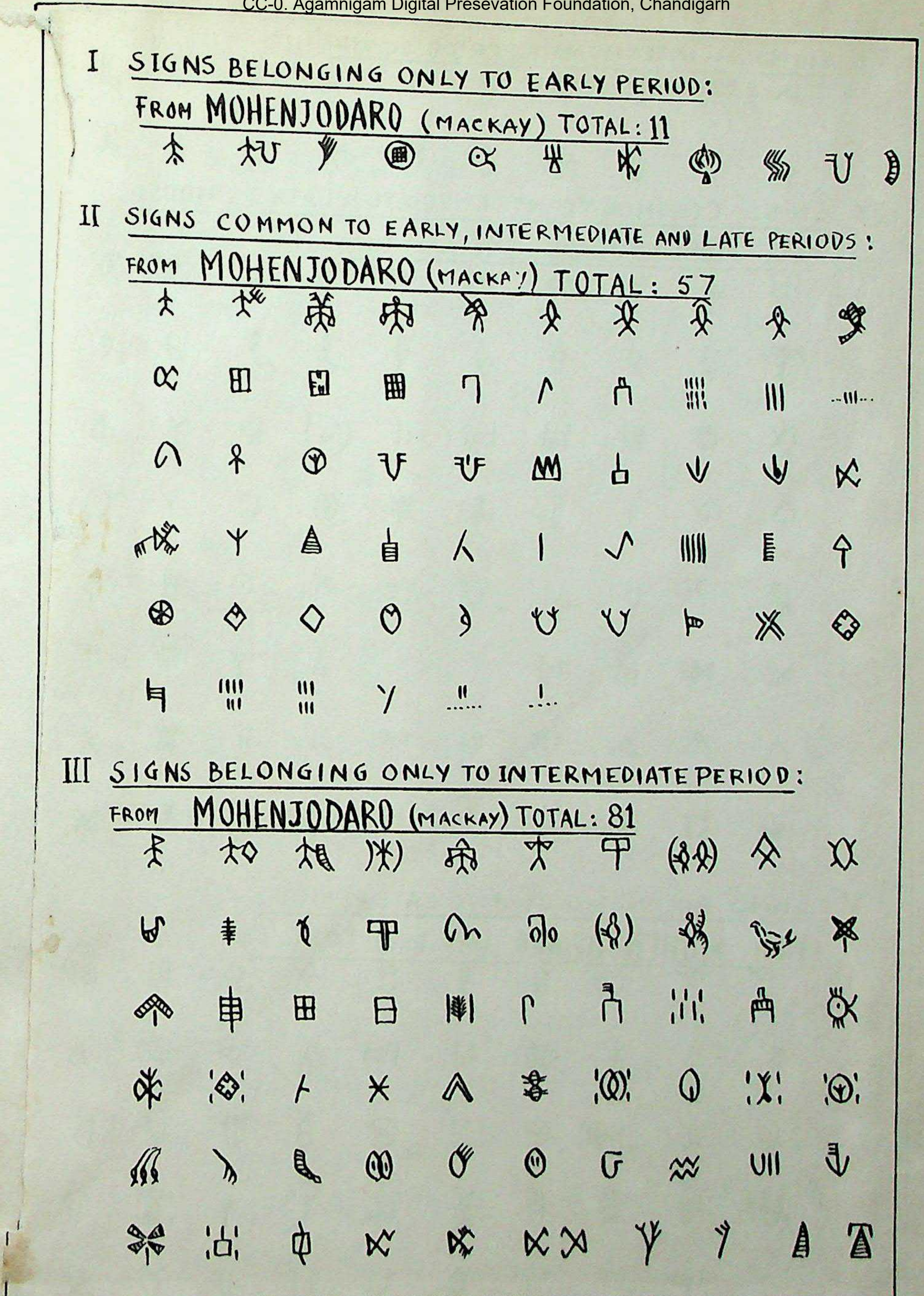

I SIGNS BELONGING ONLY TO EARLY PERIOD:
FROM MOHENJODARO (MACKAY) TOTAL: 11
II SIGNS COMMON TO EARLY, INTERMEDIATE AND LATE PERIODS:
FROM MOHENJODARO (MACKAY) TOTAL: 57
III SIGNS BELONGING ONLY TO INTERMEDIATE PERIOD:
FROM MOHENJODARO (MACKAY) TOTAL: 81

Fig. 22 Signs Belonging to Early and Intermediate Periods—Mohenjodaro

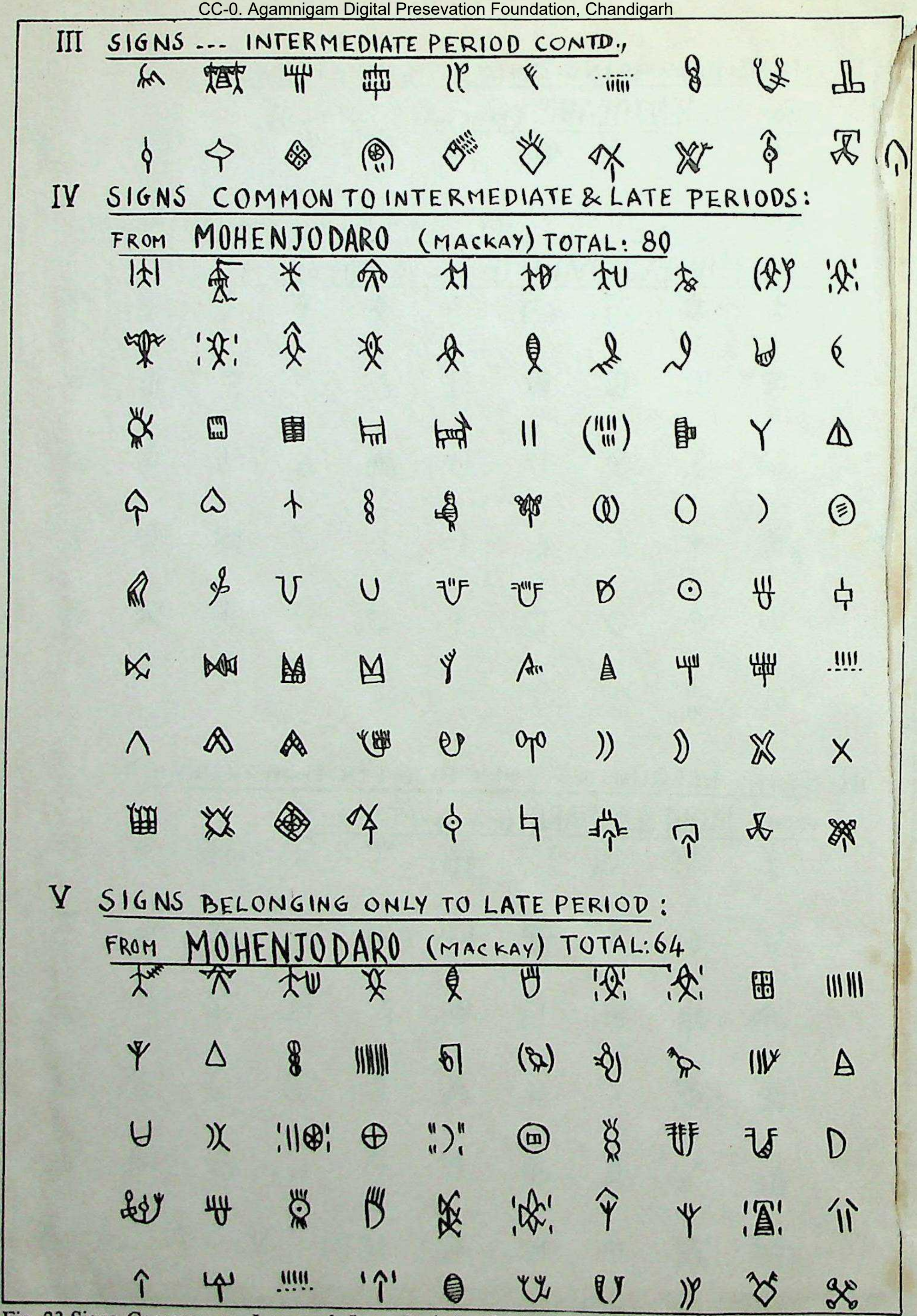
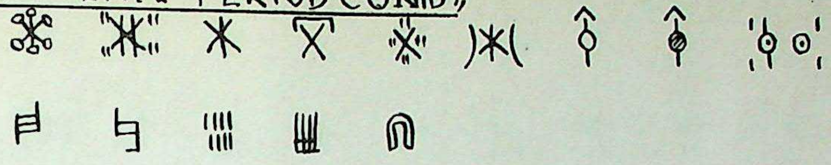

III SIGNS --- INTERMEDIATE PERIOD CONTD.,
IV SIGNS COMMON TO INTERMEDIATE & LATE PERIODS:
FROM MOHENJODARO (MACKAY) TOTAL: 80
V SIGNS BELONGING ONLY TO LATE PERIOD:
FROM MOHENJODARO (MACKAY) TOTAL: 64

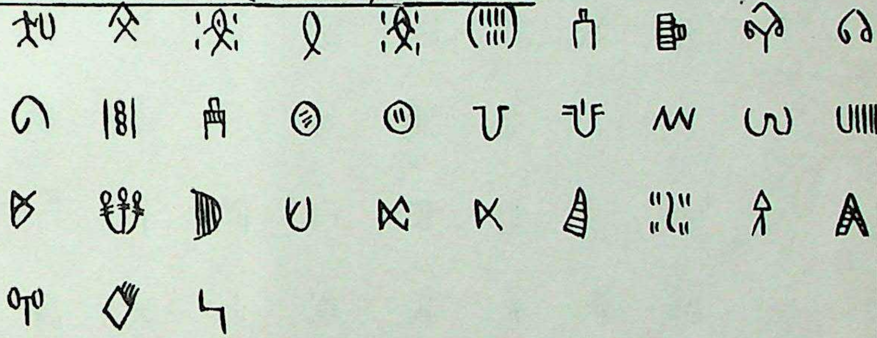
Fig. 23 Signs Common to Inter-and Late Periods (Mohenjodaro)

V SIGNS.. LATE PERIOD CONTD.,



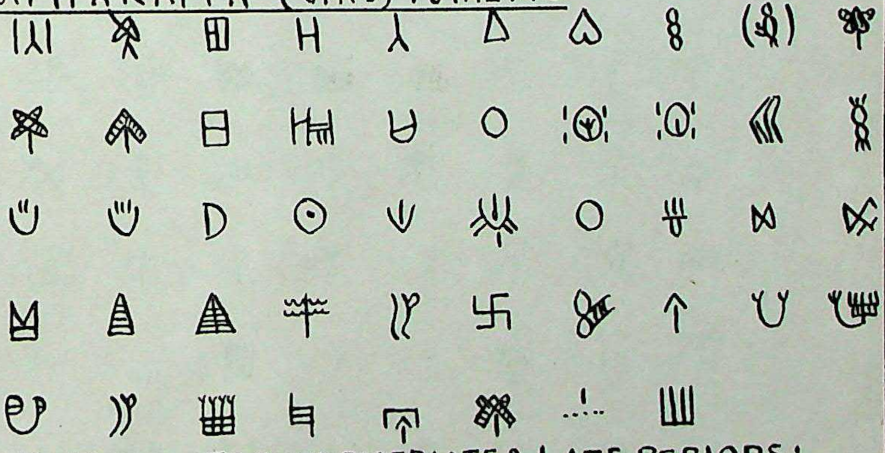
VI SIGNS BELONGING ONLY TO INTERMEDIATE PERIOD:

FROM HARAPPA (VATS) TOTAL: 33



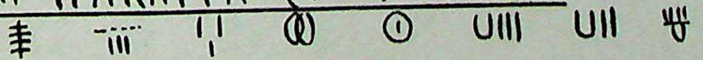
VII SIGNS BELONGING ONLY TO LATE PERIOD

FROM HARAPPA (VATS) TOTAL: 48



VIII SIGNS COMMON TO INTERMEDIATE & LATE PERIODS:

FROM HARAPPA (VATS) TOTAL: 88.



PLUS ALL THE SIGNS UNDER IV except the following 20 signs:

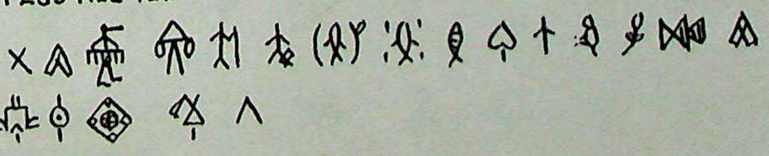


Fig. 24 Signs Belonging to Late Period (Mohenjodaro) and Signs from Inter and Late Periods--and Common Signs (Harappa)

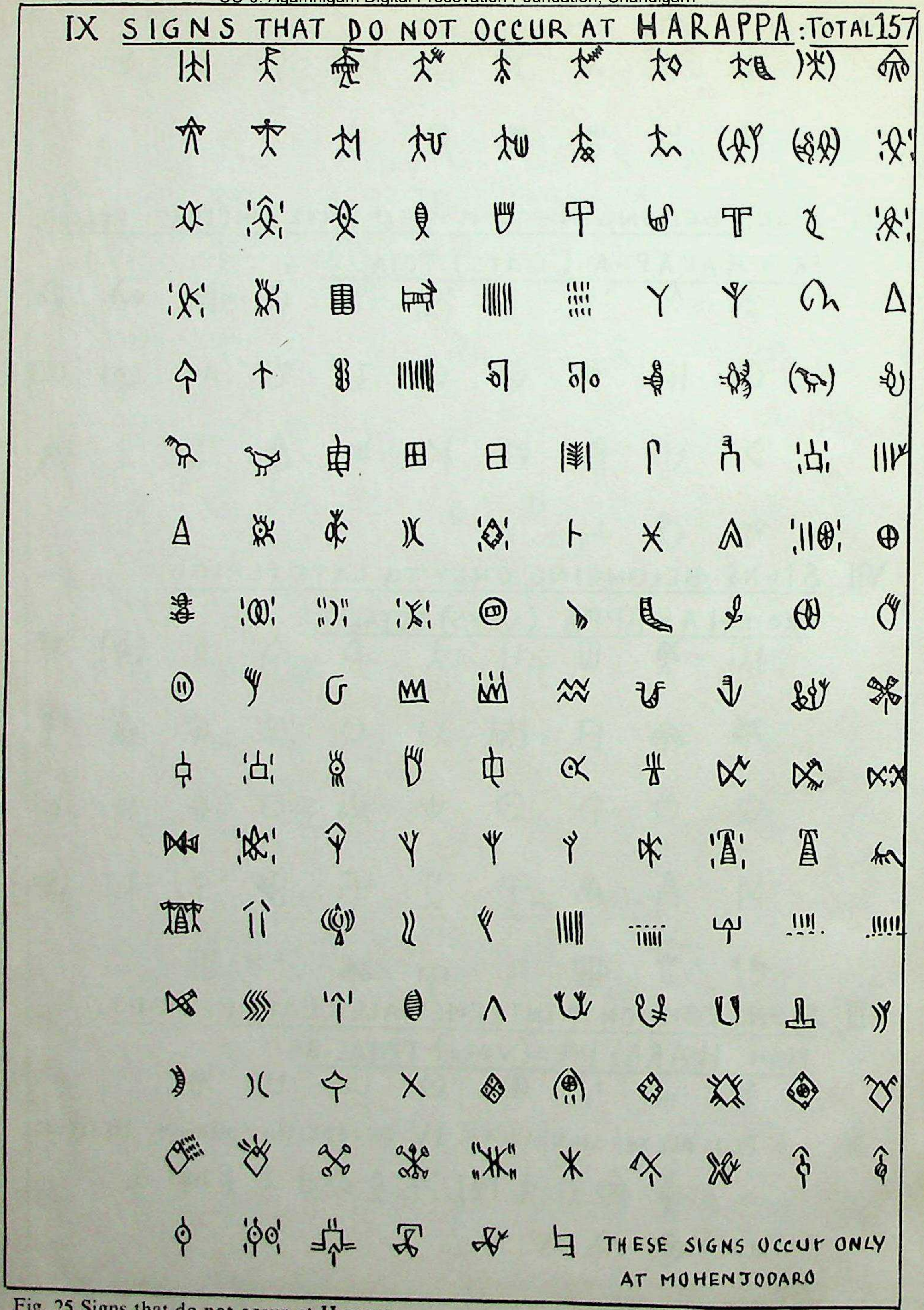

IX SIGNS THAT DO NOT OCCUR AT HARAPPA : TOTAL 157
THESE SIGNS OCCUR ONLY AT MOHENJODARO

Fig. 25 Signs that do not occur at Harappa

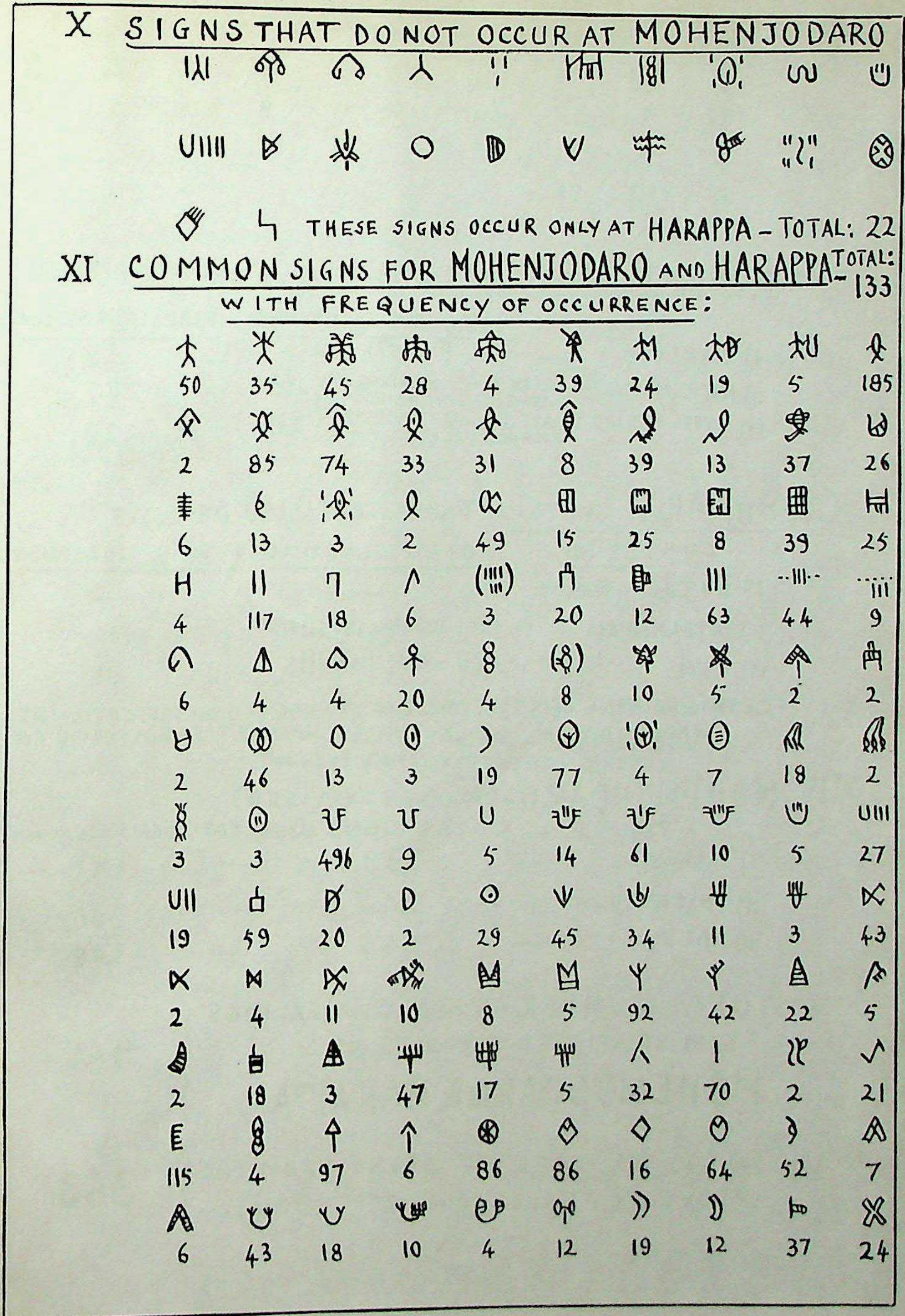
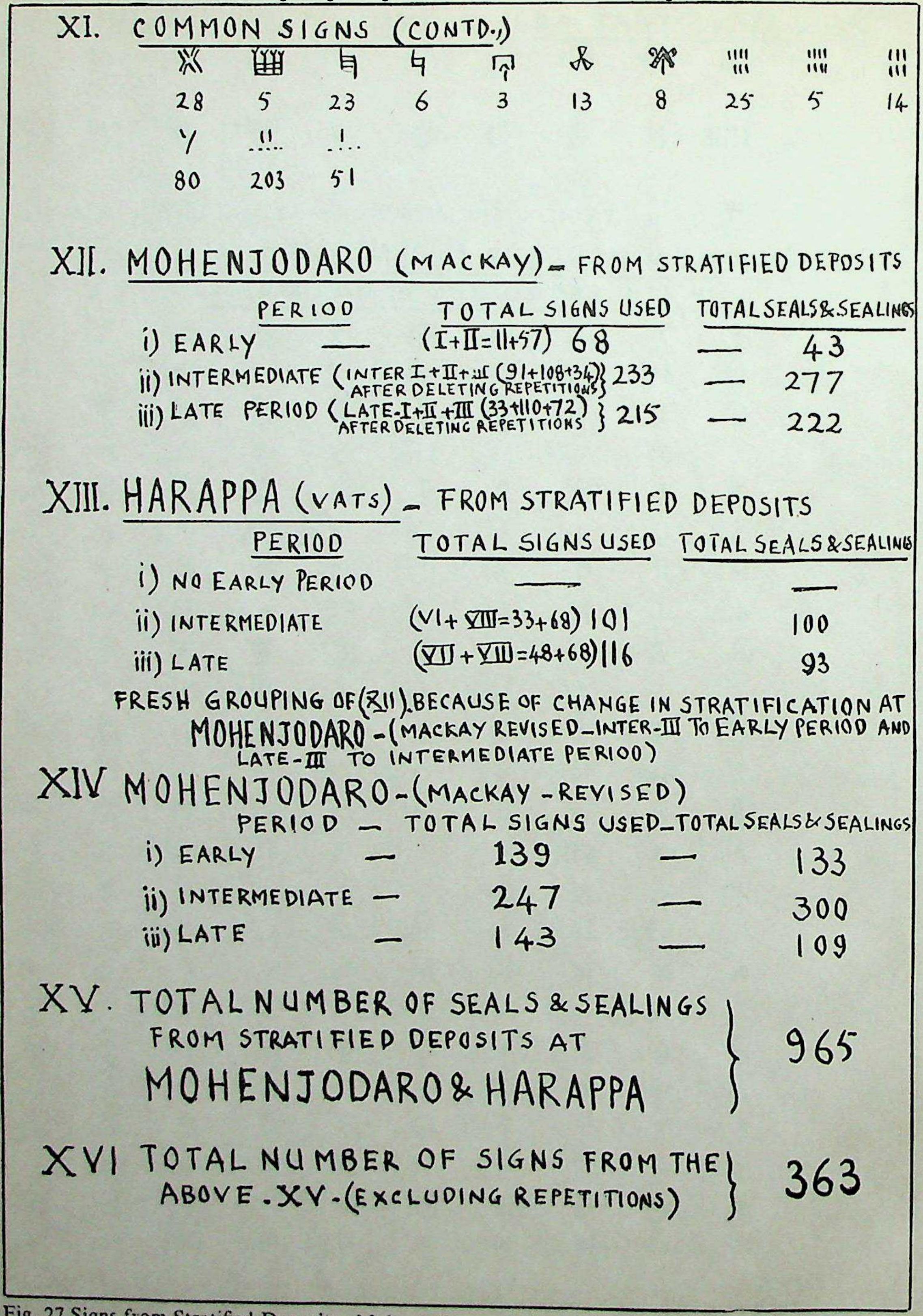

X SIGNS THAT DO NOT OCCUR AT MOHENJODARO
THESE SIGNS OCCUR ONLY AT HARAPPA - TOTAL: 22
XI COMMON SIGNS FOR MOHENJODARO AND HARAPPA - TOTAL: 133
WITH FREQUENCY OF OCCURRENCE:
50 35 45 28 4 39 24 19 5 185
2 85 74 33 31 8 39 13 37 26
6 13 3 2 49 15 25 8 39 25
4 117 18 6 3 20 12 63 44 9
6 4 4 20 4 8 10 5 2 2
2 46 13 3 19 77 4 7 18 2
3 3 496 9 5 14 61 10 5 27
19 59 20 2 29 45 34 11 3 43
2 4 11 10 8 5 92 42 22 5
2 18 3 47 17 5 32 70 2 21
115 4 97 6 86 86 16 64 52 7
6 43 18 10 4 12 19 12 37 24

Fig. 26 Common Signs for Mohenjodaro and Harappa



XI. COMMON SIGNS (CONTD.)

28
5
23
6
3
13
8
25
5
14
80
203
51

XII. MOHENJODARO (MACKAY) – FROM STRATIFIED DEPOSITS

PERIOD	TOTAL SIGNS USED	TOTAL SEALS & SEALINGS
i) EARLY	(I+II=11+57) 68	43
ii) INTERMEDIATE	(INTER I+II+III (91+108+34) AFTER DELETING REPETITIONS) 233	277
iii) LATE PERIOD	(LATE-I+II+III (33+110+72) AFTER DELETING REPETITIONS) 215	222

XIII. HARAPPA (VATS) – FROM STRATIFIED DEPOSITS

PERIOD	TOTAL SIGNS USED	TOTAL SEALS & SEALINGS
i) NO EARLY PERIOD	—	—
ii) INTERMEDIATE	(VI + VIII = 33+68) 101	100
iii) LATE	(VII + VIII = 48+68) 116	93

FRESH GROUPING OF (XII) BECAUSE OF CHANGE IN STRATIFICATION AT MOHENJODARO – (MACKAY REVISED – INTER-III TO EARLY PERIOD AND LATE-III TO INTERMEDIATE PERIOD)

XIV MOHENJODARO – (MACKAY – REVISED)

PERIOD	TOTAL SIGNS USED	TOTAL SEALS & SEALINGS
i) EARLY	139	133
ii) INTERMEDIATE	247	300
iii) LATE	143	109

XV. TOTAL NUMBER OF SEALS & SEALINGS FROM STRATIFIED DEPOSITS AT MOHENJODARO & HARAPPA } 965

XVI TOTAL NUMBER OF SIGNS FROM THE ABOVE . XV . (EXCLUDING REPETITIONS) } 363

Fig. 27 Signs from Stratified Deposits—Mohenjodaro and Harappa

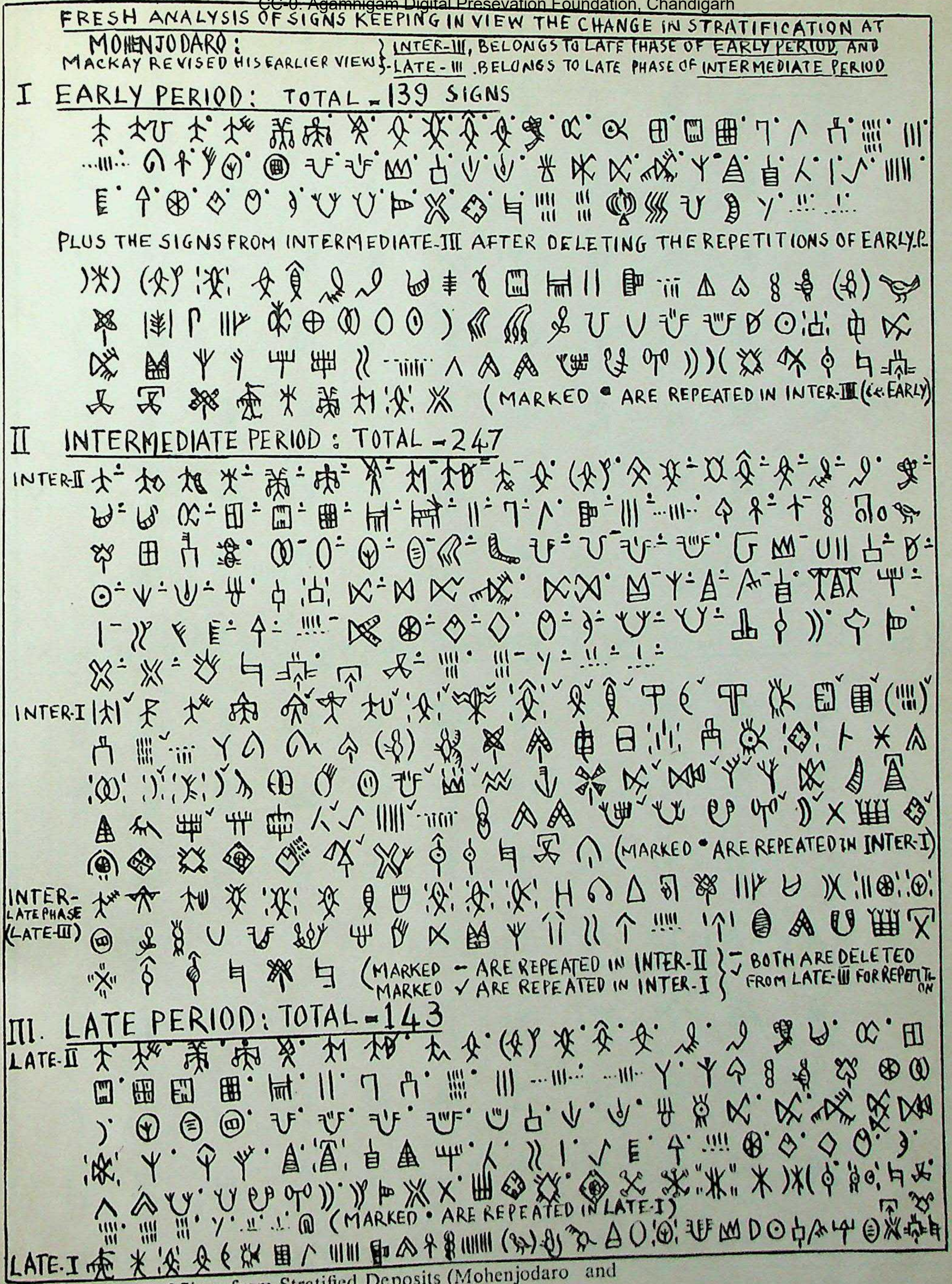

FRESH ANALYSIS OF SIGNS KEEPING IN VIEW THE CHANGE IN STRATIFICATION AT
MOHENJODARO:
MACKAY REVISED HIS EARLIER VIEWS
INTER-III, BELONGS TO LATE PHASE OF EARLY PERIOD, AND
LATE-III .BELONGS TO LATE PHASE OF INTERMEDIATE PERIOD
I EARLY PERIOD: TOTAL - 139 SIGNS
PLUS THE SIGNS FROM INTERMEDIATE-III AFTER DELETING THE REPETITIONS OF EARLY P.
(MARKED • ARE REPEATED IN INTER-III (i.e. EARLY)
II INTERMEDIATE PERIOD: TOTAL - 247
INTER-II
INTER-I
(MARKED • ARE REPEATED IN INTER-I)
INTER-LATE PHASE (LATE-III)
(MARKED – ARE REPEATED IN INTER-II
MARKED ✓ ARE REPEATED IN INTER-I
BOTH ARE DELETED FROM LATE-III FOR REPETITION
III. LATE PERIOD: TOTAL - 143
LATE-II
(MARKED • ARE REPEATED IN LATE-I)
LATE-I

Fig. 28 Analysis of Signs from Stratified Deposits (Mohenjodaro and Harappa)

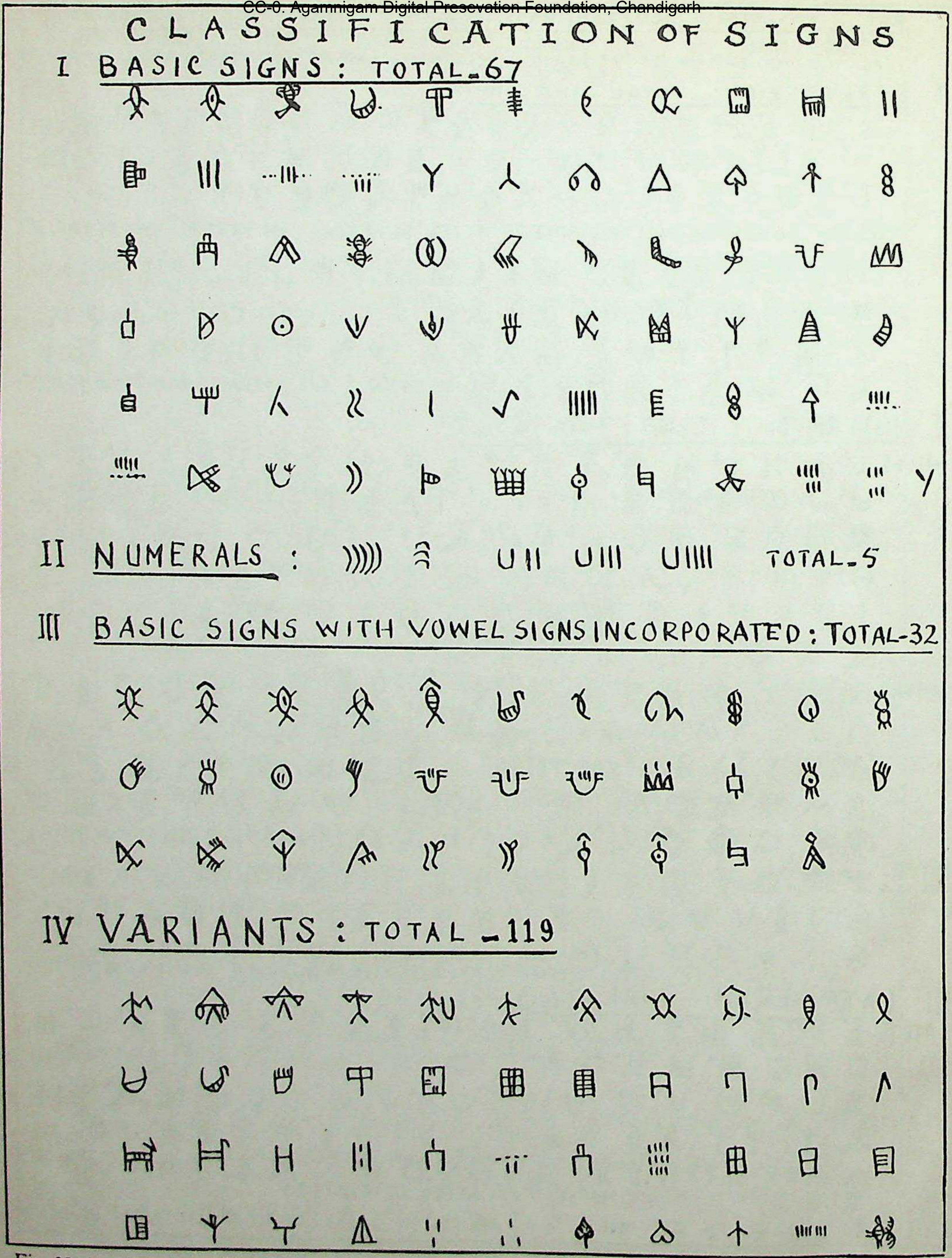
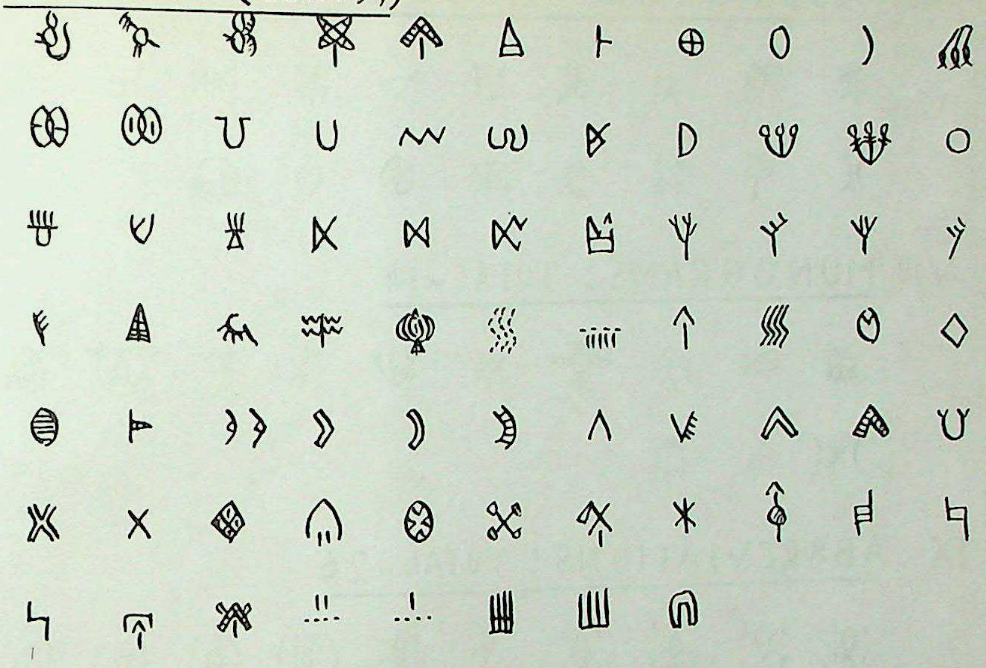
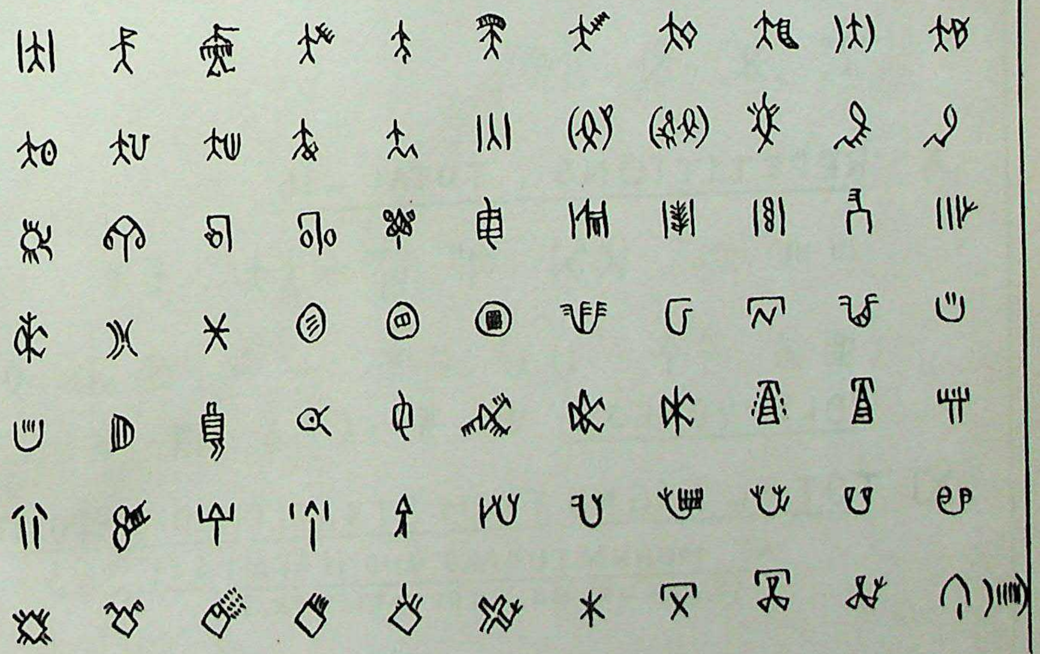

CLASSIFICATION OF SIGNS
I BASIC SIGNS : TOTAL-67
II NUMERALS :
TOTAL-5
III BASIC SIGNS WITH VOWEL SIGNS INCORPORATED : TOTAL-32
IV VARIANTS : TOTAL-119

Fig. 29 Classification of Signs

IV VARIANTS (CONTD.,)



V CONJUNCTS: TOTAL _78



VI DETERMINATIVE :

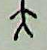


Fig. 30 Classification of Signs (Contd.)

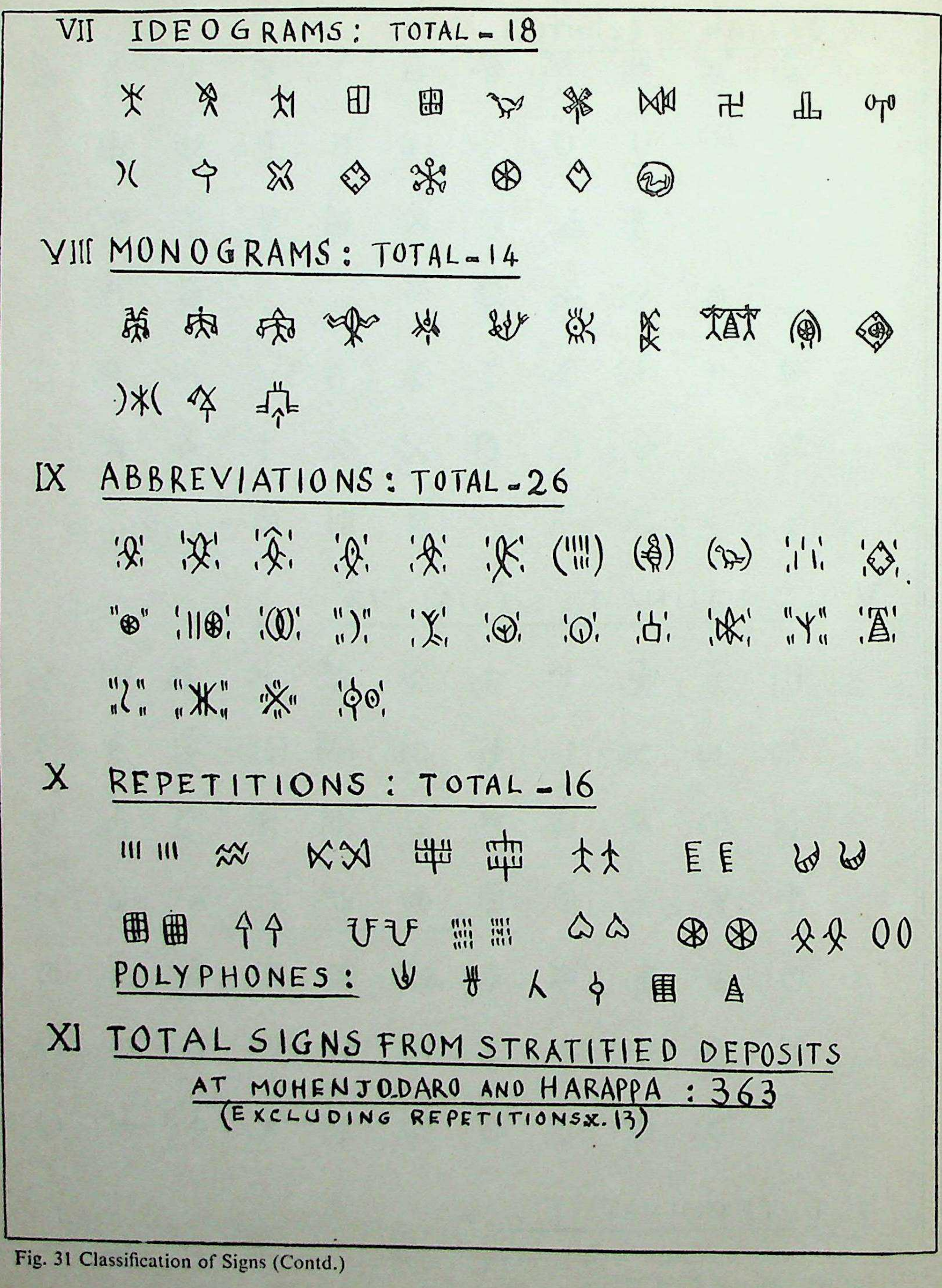

VII IDEOGRAMS: TOTAL - 18
VIII MONOGRAMS: TOTAL - 14
IX ABBREVIATIONS: TOTAL - 26
X REPETITIONS: TOTAL - 16
POLYPHONES:
XI TOTAL SIGNS FROM STRATIFIED DEPOSITS AT MOHENJODARO AND HARAPPA : 363
(EXCLUDING REPETITIONS x. 13)

Fig. 31 Classification of Signs (Contd.)

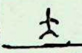
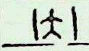
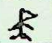
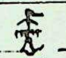
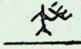
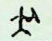
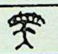
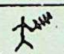
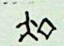
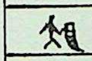
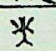
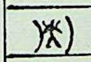
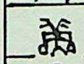
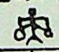
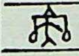
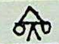
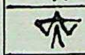
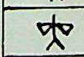
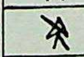
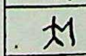
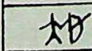
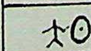
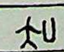
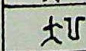
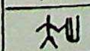
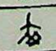
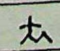
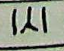
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			EARLY
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	TOTAL
	7	1	2	2				1	7	8	3	1	7	2			1	6	1	1	50
						2				1	3			1							7
		1									1										2
								2					1								3
	1							1	1		2			2							7
	1																				1
	1																				
														2							2
		1																			1
										1											1
												1									1
												1									1
	6	2	3	2		1		1		1	4	4	1		1		6	1	1	1	35
	1												1								2
	5			2		2		1	1	5	6	2	7	2	3		3	1	2	3	45
	2	1		1					1	4	4	2	6	1	1		2	2	1		28
	1										2					1					4
	1									2	1										4
										1											1
											1										1
	4	1	2	2				1	6	3	7	2	5	3		1	2				39
	2	2		1					4	3	5	3	1				2			1	24
	4	1		1				2	1	4	1	1					2		1	1	19
		1																			1
		1								1	1							1	1		5
														1							1
										1											1
		1								1		1									3
	1	1							3												5
																1					1

Fig. 32 Frequency of Occurrence of Each Sign.

FREQUENCY OF OCCURRENCE

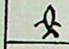
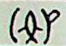
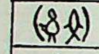
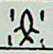
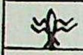
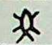
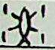
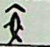
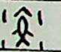
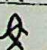
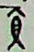
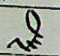
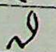
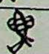
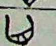
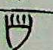
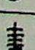
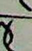
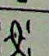
	MARSHALL							MACKAY							VATS						TOTAL
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
	21	4	5	10		1		9	15	21	19	16	21	10	5	6	7	3	6	6	185
									1			1	1								3
													1								1
												1							1		2
	1	1						3		1	2		2								10
										1											1
										1	1										2
	8	4		3				3	6	15	16	4	8	2	3	2	4	2	1	4	85
	1									1			1								3
			1									1									2
	15	3	2	2				4	6	10	9	7	5	3	2	2	1	1	2		74
	2									2	1										5
	1																				1
	4	3	1	1				2		3	7		5	1	2			3	1		33
		2								1											3
	5	4	1	2		1		1	4	3	2	2	1		1	2		1	1		31
		1								1											2
	1									2	2		1				1			1	8
	5	1	2	2				1	1	3	2	4	2		1	3	1	4	5	2	39
	1	1							2		1	1	2				2		1	2	13
	6	1	1	5				2	5	1	3	1	3	2		2	1		2	2	37
	3							3	3	2	2	1	2		1	2	3		1	3	26
										1											1
											1										1
												1									1
	1												2				1			2	6
								1		4	1				3	1	2		1		13
													2								2
											1										1
				1						1								1			3

Fig. 33 Frequency of Occurrence of Each Sign.

FREQUENCY OF OCCURRENCE

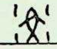
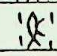
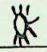
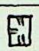
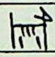
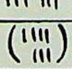
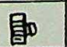
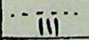
	MARSHALL							MACKAY							VATS						TOTAL
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
						1														1	2
										1										2	3
										1											1
	1							1			1										3
	2	1	2	4				2	3	9	8	3	4	1	1		3	5			48
	5								2	1	1	1	2	2		1					15
		1	3	1				2	2	7	1	4	1			1			2		25
									1												1
	1								1	1	1			1			1		1	1	8
	5	1	1			2		1	5	1	5	4	2	1			7	2		2	39
	2	2						5		4	8										21
	2																				2
	3		1					2	2	1	2	2	1			3	1	3	1	3	25
	1									1	2	2									6
H										1				2			1				4
||	12	4	3	6		1		11	11	23	11	13	9		4	2	2	5		1	117
	3	1							4	3	1	1	2	1		1		1			18
Λ	1							1			1	1		1	1						6
||| |||								1													1
										1	1									1	3
	5		2	1				1	1		2		4	1				1	1	1	20
	3			2		1		1	1	4	3		1	1							17
								2		1	1	1	1						2	4	12
|||	7	2	4	8		1			2	9	7	3	9	1		4	3	2	1		63
···|||···	7	1		4				3	3		6	2	6	1	3	1	5	1	1		44
		1							1		3		1	1			1			1	9
Y								1	3		1										5
									1												1

Fig. 34 Frequency of Occurrence of Each Sign.

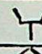
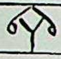
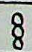
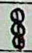
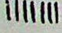
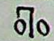
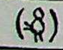
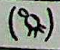
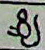
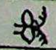
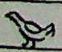
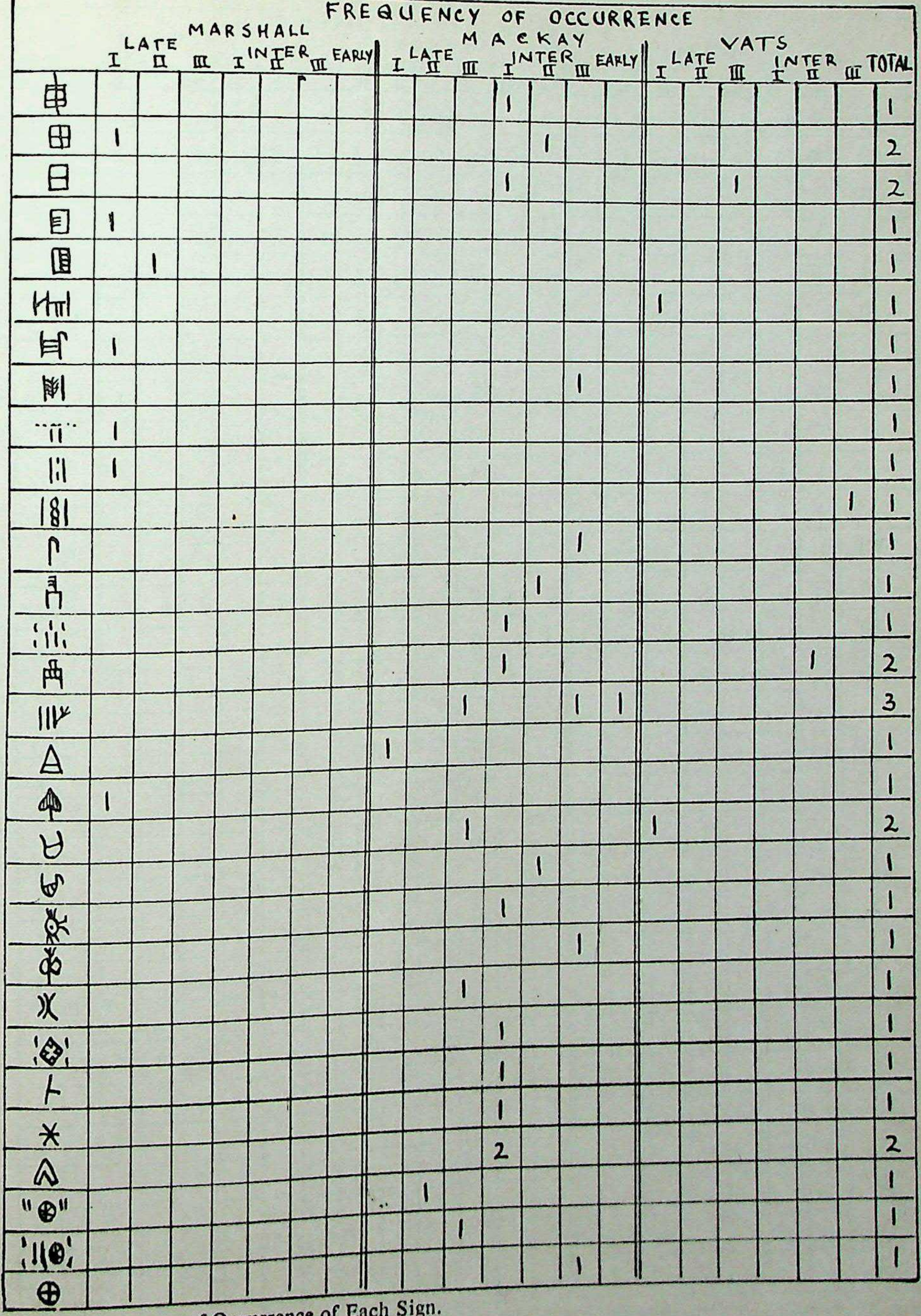
	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	TOTAL
	1																				1
																			1		1
															1						1
																			1		1
	1									2	1			1						1	6
											1										1
										1											1
		1								1			1				1				4
			1	1													1	1	1	1	6
						1															1
	2								1		2	2									7
								2					1				1				4
								3		4	2	2	5	1			1	1		1	20
	2	1		2						2		1									8
									1			1	1			1					4
								1													1
	1							1													2
										1											1
												1									1
									1				1								2
	1	1		2							1		2		1						8
											1										1
								1													1
									1												1
	1								1												2
				1																	1
			2	1								2	2								7
		1						2	2	3		1			1						10
											1		2			1	1				5
											1				1						2

Fig. 35 Frequency of Occurrence of Each Sign.



	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			TOTAL
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
											1										1
	1											1									2
											1						1				2
	1																				1
		1																			1
															1						1
	1																				1
													1								1
	1																				1
	1																				1
																				1	1
													1								1
												1									1
											1										1
											1								1		2
										1			1	1							3
Δ								1													1
	1																				1
										1					1						2
												1									1
											1										1
													1								1
										1											1
											1										1
											1										1
											1										1
*											2										2
																					1
"⊕"									1												1
										1											1
⊕													1								

Fig. 36 Frequency of Occurrence of Each Sign.

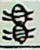
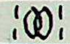
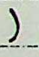
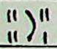
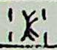
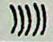
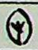
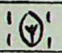
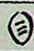
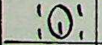
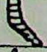
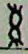
	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			TOTAL
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
	1										4	1									6
	10	2	3	1		1			5	6		4	1	1	3		1	3	2	3	46
	1										1										2
	2							1		3	3	1	2				1				13
													1				1			1	3
	3	1						2	1	3	4		2				1		1	1	19
	1	1								1											3
	1										1										2
	1																				1
	11		1	6				4	6	9	12	10	4	4	2	4	3	1			77
								1		2					1						4
			1	1					1	2		1							1		7
																1					1
	1	1						1	1	1											5
			1	1		1				6	1	4	1	1			2				18
													1				1				2
											1										1
												2									2
	1	1								1			2								5
									1	1							1				3
			1																		1
				1							1										2
											1										1
				1																	1
											2								1		3

Fig. 37 Frequency of Occurrence of Each Sign.

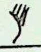
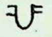
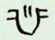
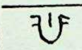
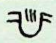
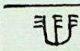
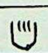
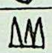
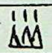
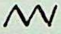
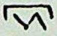
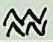
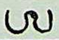
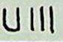
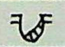
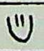
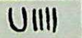
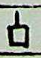
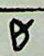
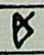
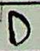
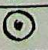
	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			TOTAL
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
														1							1
														1							1
	70	17	13	21		2		19	32	62	53	34	39	21	15	18	21	19	23	16	496
	1			4						1		1	1							1	9
		1								1			1				1	1			5
	2							2	1	2	2		3				1			1	14
	7	4	3	2		1		4	6	9	9	4	5	5				1	1		61
				1					1		1	1	3			1	1	1			10
								1													1
												2									2
	1								1	1				1	1						5
	6	1	1					3		1		1	1	1							15
										2	1										3
																				1	1
																					
											1										1
																		1			1
														1	1	2	4	2	9	8	27
												1			1	2	1	3	9	2	19
										1											1
																1					1
																			3	7	12
						2		3	1	4	11	4	6	1	1	4	4	2	4	1	59
	4	3	2	4																	
										1	6	3	2		1		2		2		20
	2	1																1			1
																	1				2
								1		6	1	4	5		2		3				29
	5		1	1				1													

Fig. 38 Frequency of Occurrence of Each Sign.

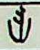
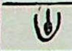
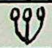
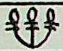
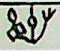
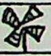
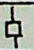
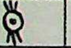
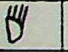
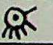
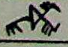
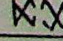
	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						TOTAL
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
	4	2	4	5				2	2	4	8	2	6	1	2	1	2				45
											1										1
	3		2	2		1		2	2	5	3	3	3	1	3	2		1	1		34
																	1				1
																	1		1		2
																			1		1
										1											1
																	1				1
	1					1			2		3	2		1			1				11
										1						1			1		3
											1										1
	1																			1	2
	1							1				1									3
	1											1	1								3
	1																				1
									1												1
										1											1
						1															1
													1								1
														1							1
	1																		1		2
														1							1
	5	3	1	1		2		2	4	5	10	5	2	1				1	1		43
										1										1	2
	1											1		1			1				4
												1									1
	1	1						2	2	1	1		1		1		1				11
													1								1
	1			1					1		1	1	2	1			1	1			10
											2	1									3

Fig. 39 Frequency of Occurrence of Each Sign.

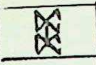
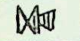
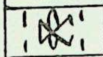
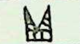
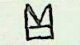
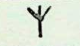
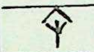
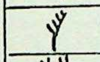
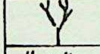
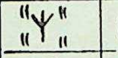
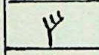
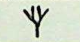
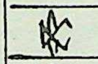
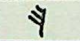
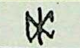
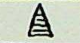
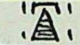
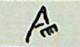
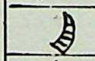
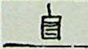
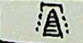
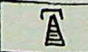
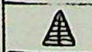
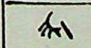
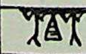
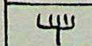
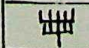
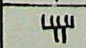
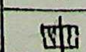
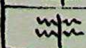
	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			TOTAL
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
									1					1							2
	2		1						1	1	1										6
									1												1
	1	1								1			3			1		1			8
	1									1		2					1				5
	14	6	1	4				2	5	10	13	7	10	7	1	3	3	2	4		92
									1												1
	7	1	4	5				3	2	4	6			1	2	3	3		1		42
											1										1
	1																				1
	2																				2
										1			1	1							3
											1			2							3
													1								1
														1							1
	4	1						3	1	1	1	4	2	2	2		1				22
									1												1
								1		1		1			1			1			5
											1								1		2
	2		1						3		1	2	1	2	1	1	3		1		18
	1																				1
	2										1										3
									1		1				1						3
											1										1
												1									1
	6	1	4	3				1	2	6	6	5	3				2	2	6		47
	4									3	2		3			3	1		1		17
											2				1	1			1		5
											1										1
															1						1

Fig. 40 Frequency of Occurrence of Each Sign.

FREQUENCY OF OCCURRENCE

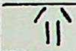
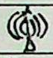
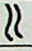
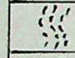
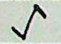
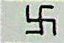
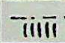
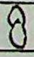
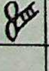
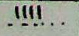
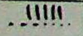
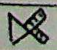
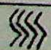
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			TOTAL
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
	2	1		2				1	5	4	5		4	3	1	1	1			2	32
										1											1
														1							1
									1	1			1	1							4
	8	4	2	2		1		4	5	6	8	8	13	1	1			3	1	3	70
												1			1						2
												1									1
			1																		1
	1	1	1	2					4		3		2	2		2			2	1	21
															5						5
	3		1							1	1		1	1							8
											2		2								4
	10			5				6	4	6	6	9	4	3	5	3	7	9	20	18	115
		1									1				1				1		4
																1	1				2
	17	4	2	6		1		4	6	7	9	8	9	3	3	3	4	2	5	4	97
				2						2						2					6
								1													1
									1	1		1									3
										1											1
	1											2		1							3
	1													1							1

Fig. 41 Frequency of Occurrence of Each Sign.

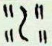
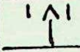
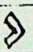
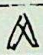
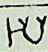
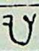
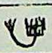
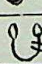
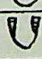
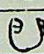
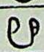
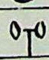
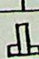
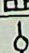
	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			EARL
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	TOTAL
		1																	1		2
										1											1
																				1	1
	12	1	2	7				6	7	9	13	8	8	5	1	1	5	1			86
	7	3	2	3				6	7	8	9	11	13	5	2	3	3	1	2	1	86
	2			1					3		1	2	3	1	1		1			1	16
	8	3		3			1	3	2	6	7	8	9	6	5			1	1	1	64
								1		1											2
	10	1	2	1				4	4	1	7	4	8	3	2	2	1	2			52
			1																		1
									1				1								2
		1																			1
	2	1							1		1		1				1				7
	1	1								1	1		1					1			6
	5	2	2					3	3	7	3	2	4	2	1		1	1	2	5	43
	1			1				2	1	3	1	4	1	2	1	1					18
		1																			1
														2							2
	2									2	2		2		1	1					10
											1										1
													1								1
										1											1
	1								1		1				1						4
	2																				2
	3		1						1	1	3		2							1	12
												1									1
												1									1
	4		1	2				1	2		1	3					3	2			19
									1								1				2
	2		2							2	2		2				1	1			12

Fig. 42 Frequency of Occurrence of Each Sign

FREQUENCY OF OCCURRENCE

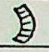
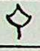
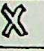
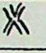
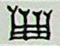
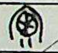
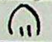
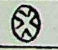
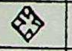
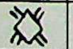
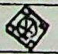
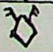
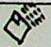
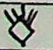
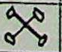
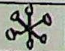
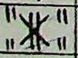
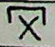
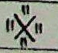
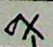
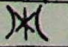
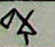
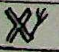
	MARSHALL							MACKAY							VATS						TOTAL
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
	1													1							2
	1												2	2							5
												1									1
	3	1		2				2	2	2	9	4	3	3	1		1	1	2	1	37
	5							2		3	3	2	2				4		3		24
	2	2	1	3					3	2	4	1	1	4		3				2	28
				1				1	2		3										7
										3	1						1				5
				1							1										2
		1									1										2
	1																				1
		1															1		1	1	4
			1						1	1	5		2	1							11
	2							1	2		4		2								11
	1			1					1	1	1										5
		1						1													2
											1										1
																			1		1
												1									1
									1												1
									1												1
									1												1
									1												1
	3			2						1											6
										1											1
													2								2
									1												1
		1								1	1										3
	1																				1
											1										1

Fig. 43 Frequency of Occurrence of Each Sign.

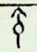
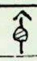
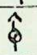
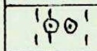
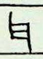
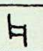
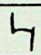
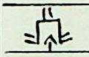
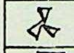
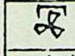
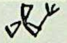
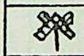
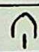
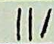
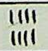
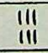
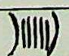
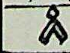
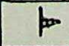
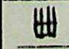
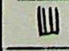
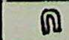
	FREQUENCY OF OCCURRENCE																				
	MARSHALL							MACKAY							VATS						
	LATE			INTER			EARLY	LATE			INTER			EARLY	LATE			INTER			TOTAL
	I	II	III	I	II	III		I	II	III	I	II	III		I	II	III	I	II	III	
										1											1
										1											1
											1										1
	1			1				1	2		1		2								8
									1												1
	1	3	1					3		5	6		2	1	1						23
						2		1	1												4
									2			1	1				1		1		6
																		1			1
	4			1				2			4	2	1								14
									1			1					1				3
	2			1				1	2	1	1	1	2			1		1			13
											2		1								3
										1											1
										3			2		1	1	1				8
										1											1
											1										1
	5			1				6	2		2	4		1	1		1	2			25
																					
									1					1			1	2			5
	3		1					1	2	1		1		2			1			2	14
	13	3	4	1				3	4	8	13	8	10	3	1	1	4		2	2	80
	34	11	7	9			1	14	15	30	28	19		12	9	5	4	4	1		203
	7	2	1	3				6	4	5	7	5		4	1	3	3				51
			1																		1
	1																				1
	1																				1
									1												1
																1					1
									1					1							2

Fig. 44 Frequency of Occurrence of Each Sign.

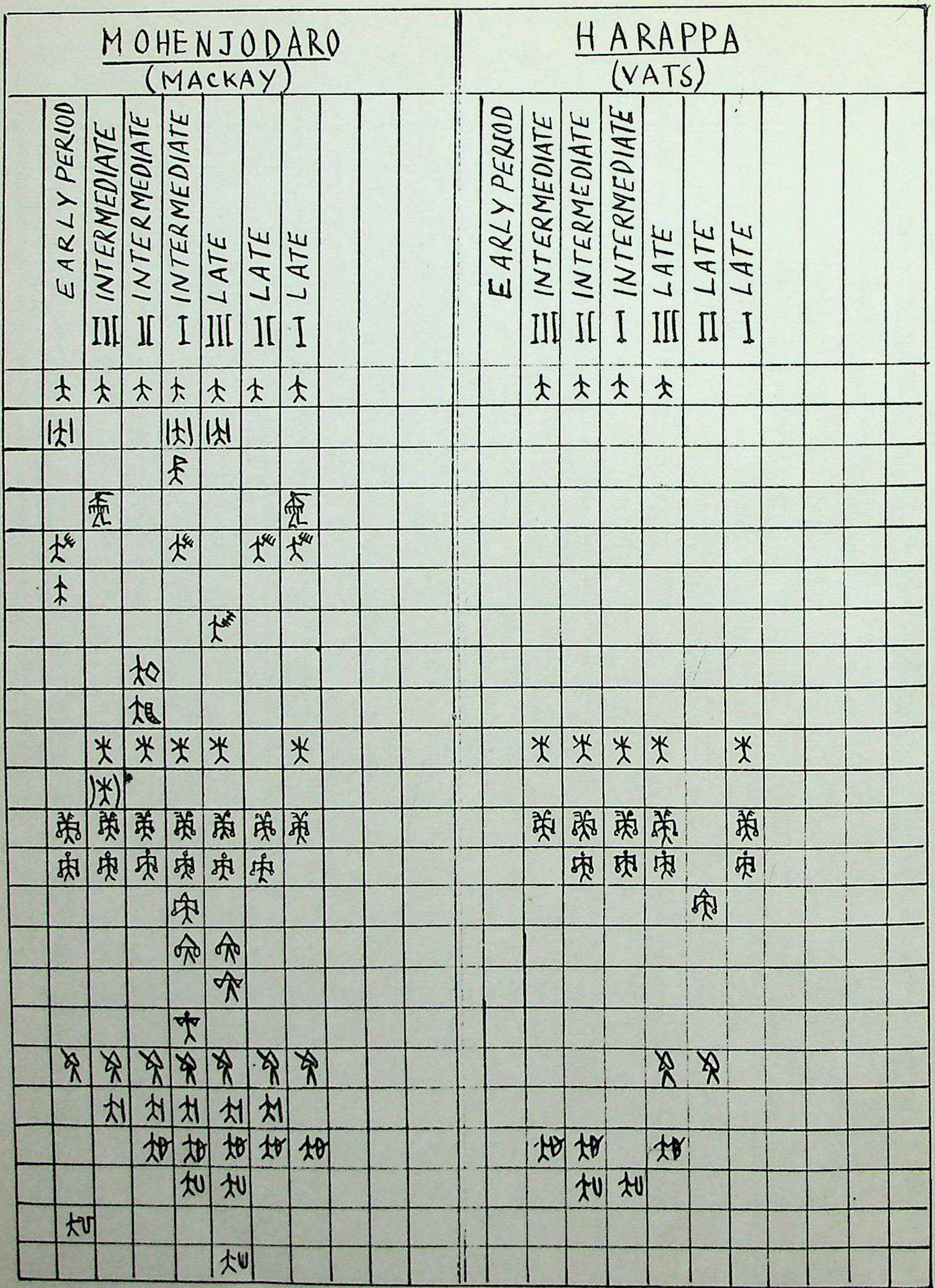

MOHENJODARO
(MACKAY)
EARLY PERIOD
INTERMEDIATE III
INTERMEDIATE II
INTERMEDIATE I
LATE III
LATE II
LATE I
HARAPPA
(VATS)
EARLY PERIOD
INTERMEDIATE III
INTERMEDIATE II
INTERMEDIATE I
LATE III
LATE II
LATE I

Fig. 45 Occurrence of Signs at Different Periods and Phases

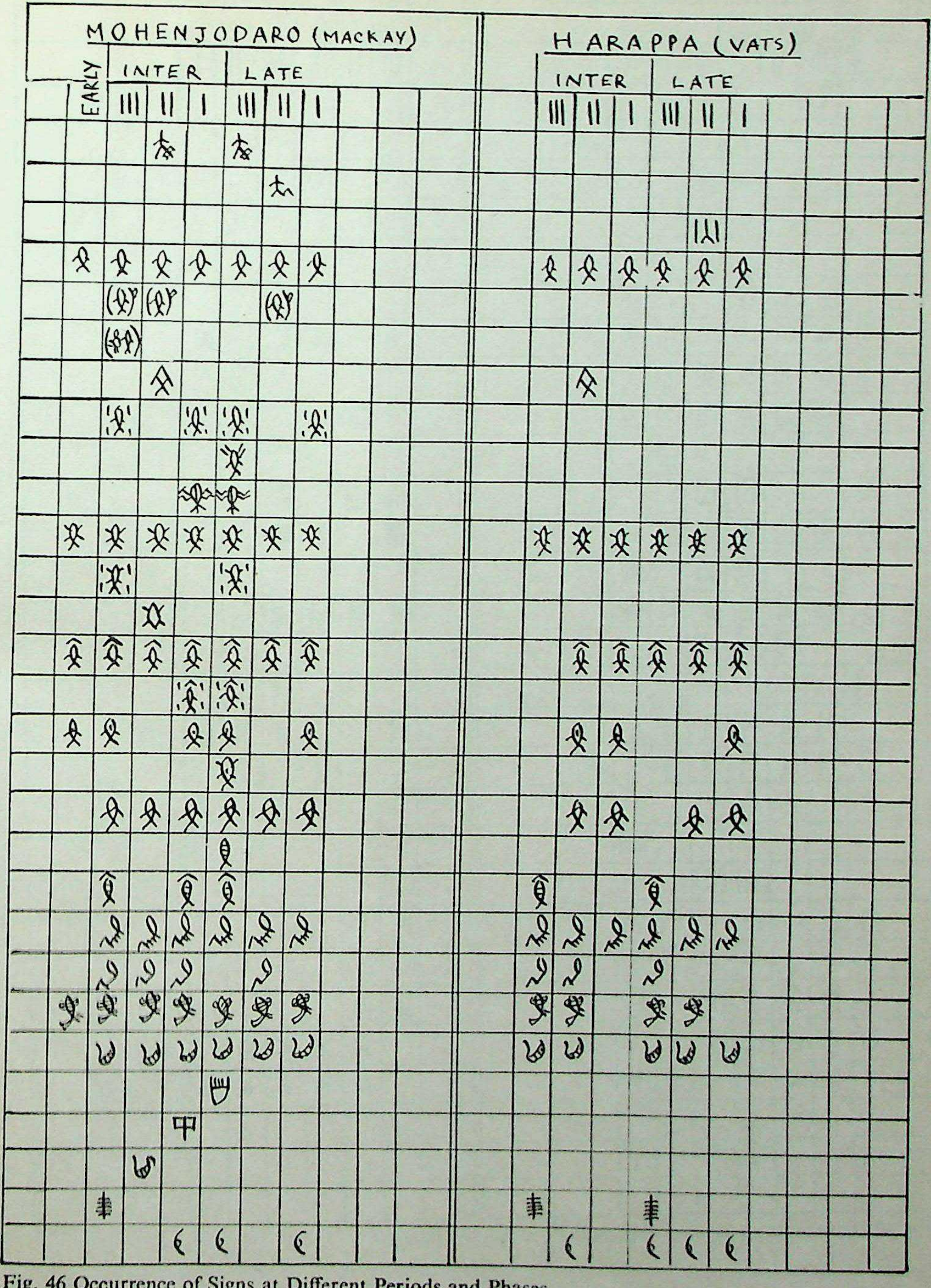

MOHENJODARO (MACKAY)
EARLY
INTER
III
II
I
LATE
III
II
I
HARAPPA (VATS)
INTER
III
II
I
LATE
III
II
I

Fig. 46 Occurrence of Signs at Different Periods and Phases

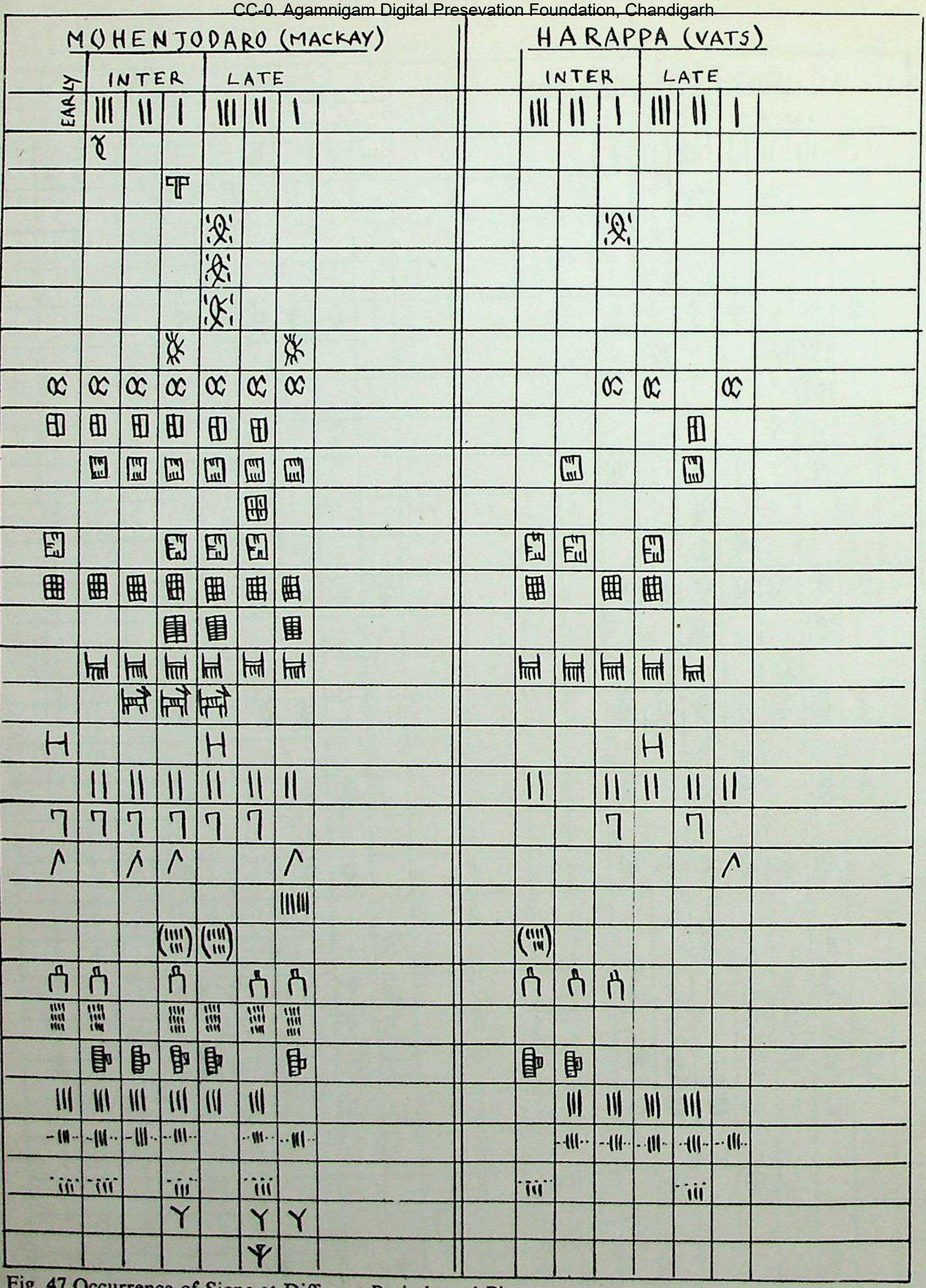

MOHENJODARO (MACKAY)
EARLY
INTER
LATE
III
II
I
HARAPPA (VATS)

Fig. 47 Occurrence of Signs at Different Periods and Phases

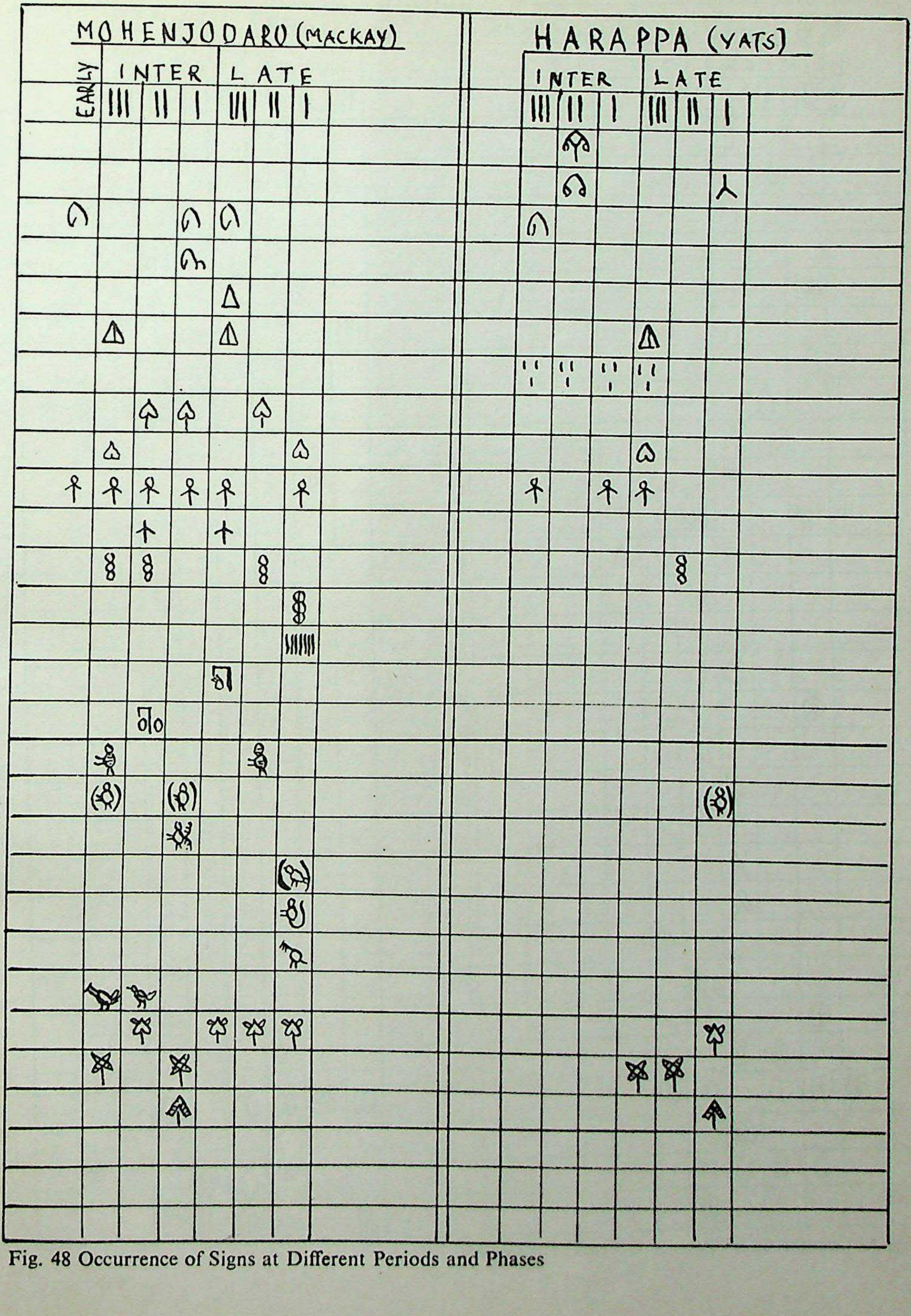

MOHENJODARO (MACKAY)
EARLY
INTER
LATE
III
II
I
III
II
I
HARAPPA (YATS)
INTER
LATE
III
II
I
III
II
I

Fig. 48 Occurrence of Signs at Different Periods and Phases

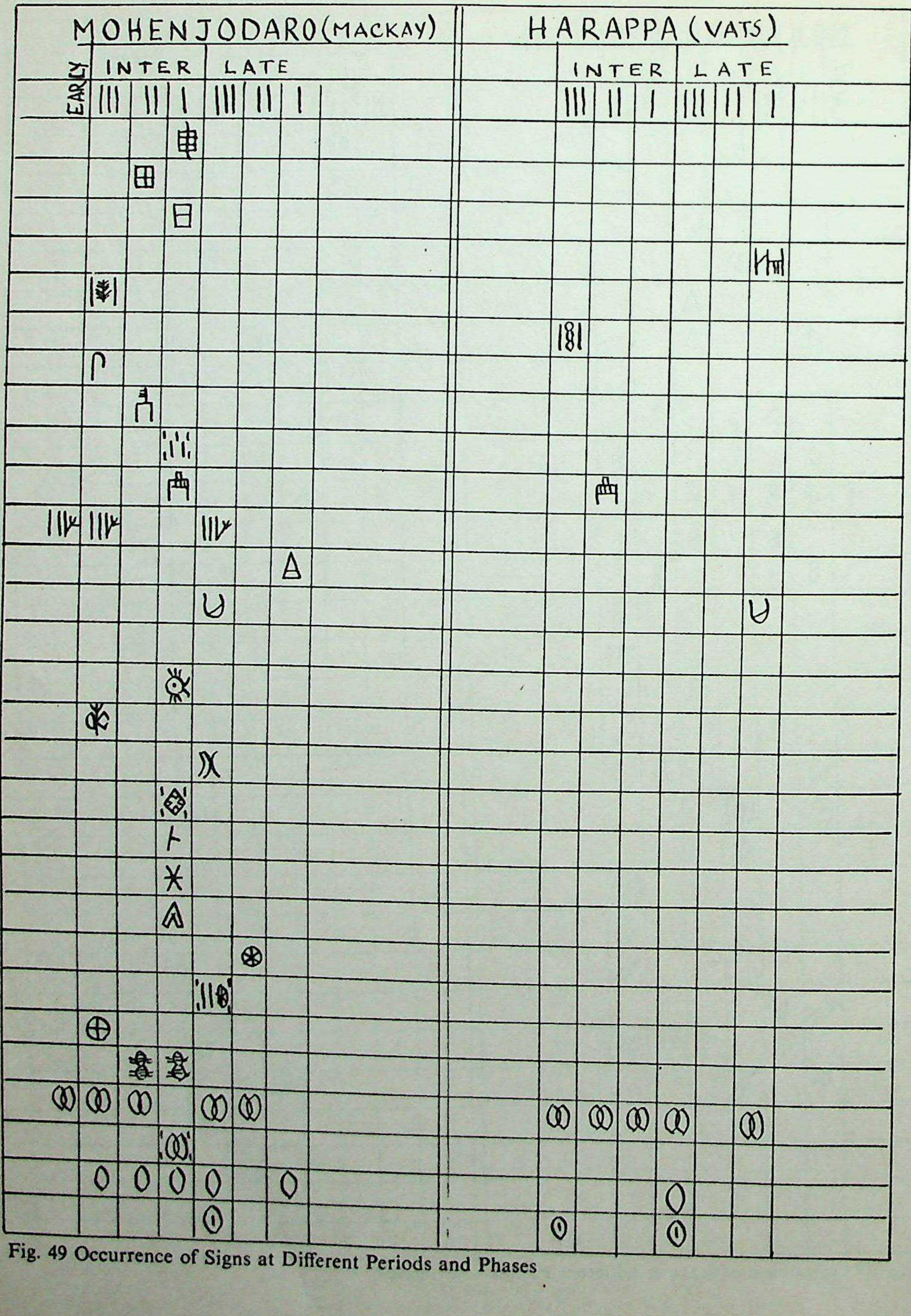

MOHENJODARO (MACKAY)
EARLY
INTER
LATE
III
II
I
III
II
I
HARAPPA (VATS)
INTER
LATE
III
II
I
III
II
I

Fig. 49 Occurrence of Signs at Different Periods and Phases

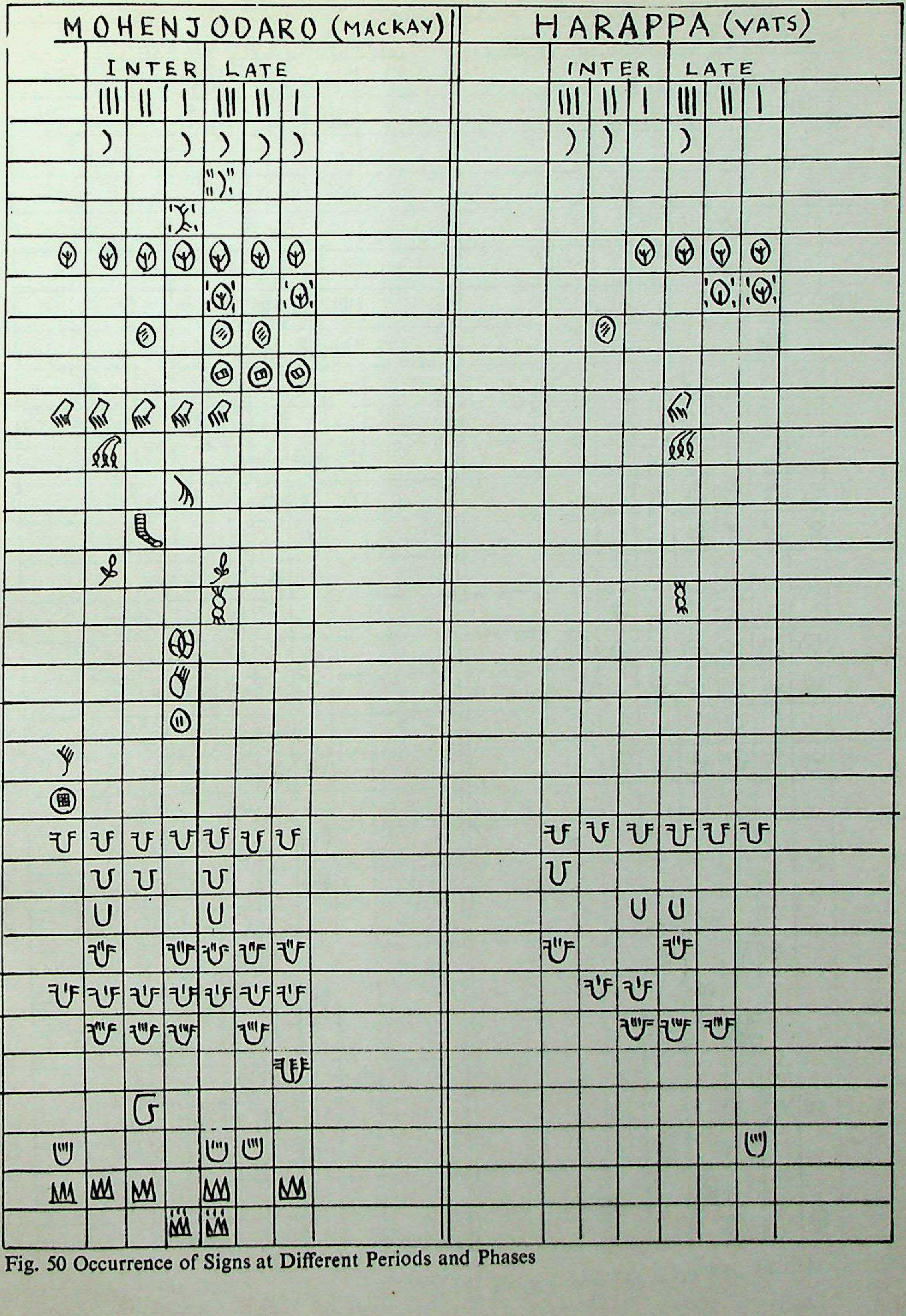

MOHENJODARO (MACKAY)
INTER
LATE
III
II
I
III
II
I
HARAPPA (VATS)
INTER
LATE
III
II
I
III
II
I

Fig. 50 Occurrence of Signs at Different Periods and Phases

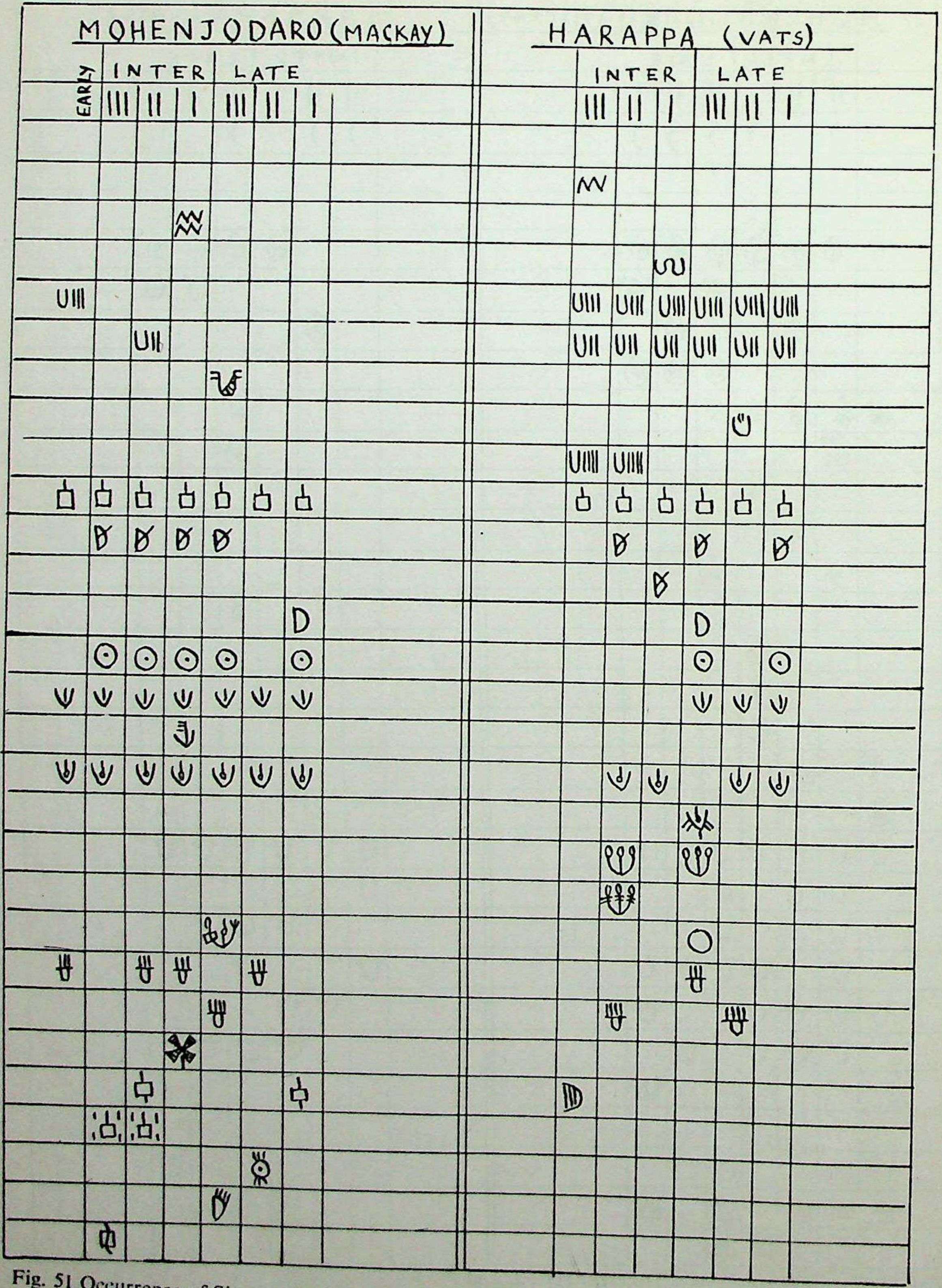

MOHENJODARO (MACKAY)
EARLY
INTER
LATE
III
II
I
III
II
I
HARAPPA (VATS)
INTER
LATE
III
II
I
III
II
I

Fig. 51 Occurrence of Signs at Different Periods and Phases

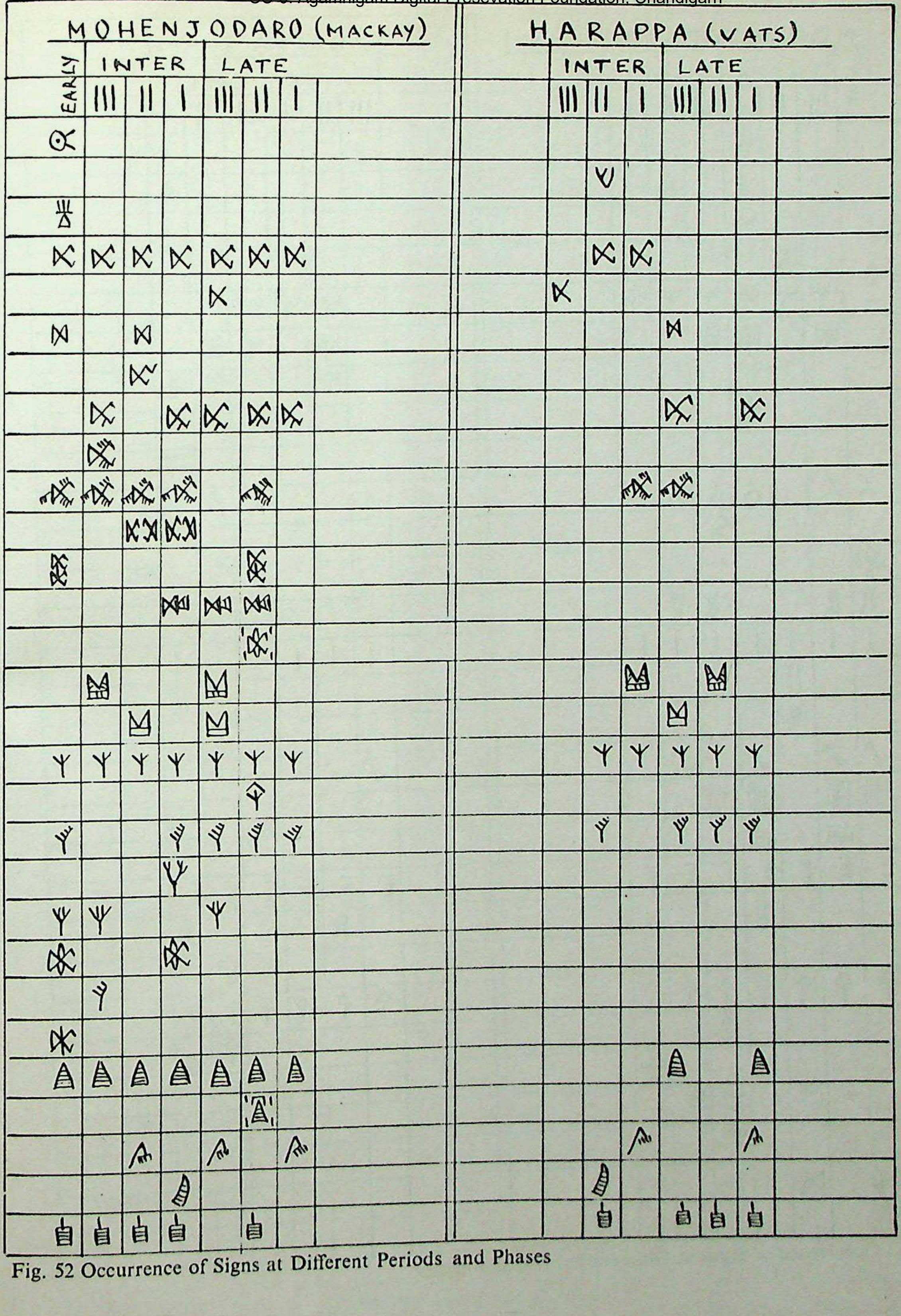

MOHENJODARO (MACKAY)
EARLY
INTER
LATE
III
II
I
III
II
I
HARAPPA (VATS)
INTER
LATE
III
II
I
III
II
I

Fig. 52 Occurrence of Signs at Different Periods and Phases

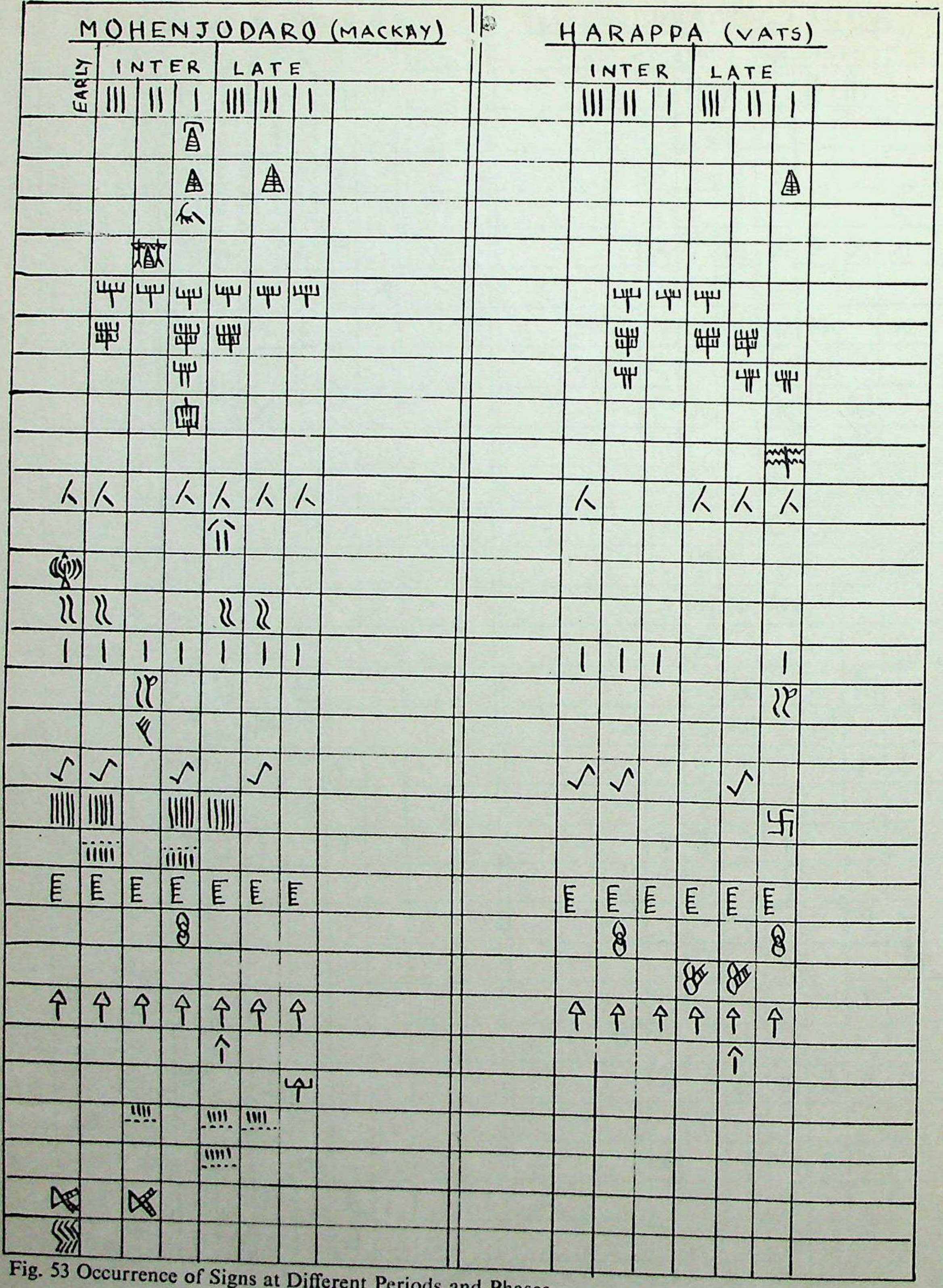

MOHENJODARO (MACKAY)
EARLY
INTER
LATE
III
II
I
III
II
I
HARAPPA (VATS)
INTER
LATE
III
II
I
III
II
I

Fig. 53 Occurrence of Signs at Different Periods and Phases

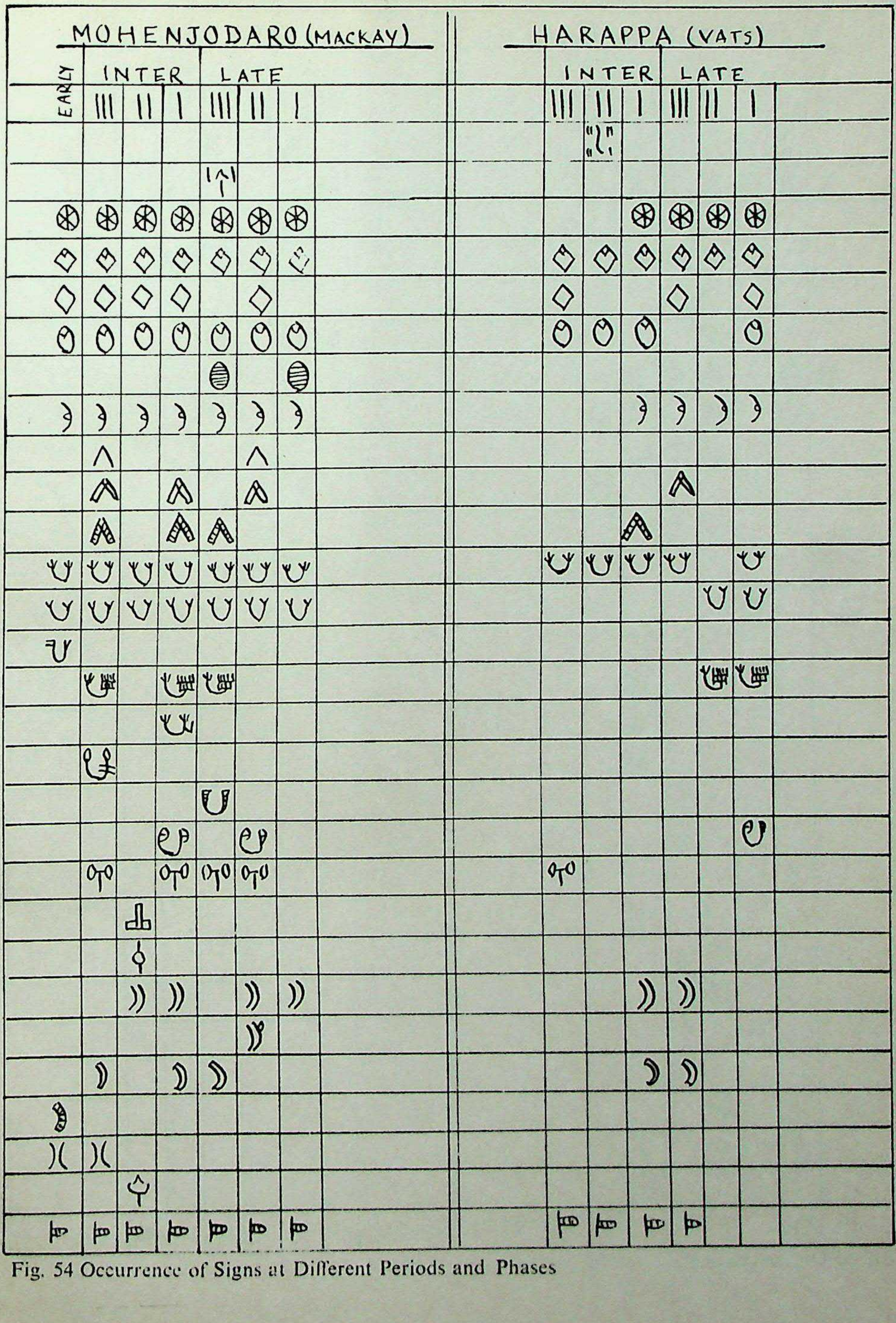

MOHENJODARO (MACKAY)
EARLY
INTER
III
II
I
LATE
III
II
I
HARAPPA (VATS)
INTER
III
II
I
LATE
III
II
I

Fig. 54 Occurrence of Signs at Different Periods and Phases

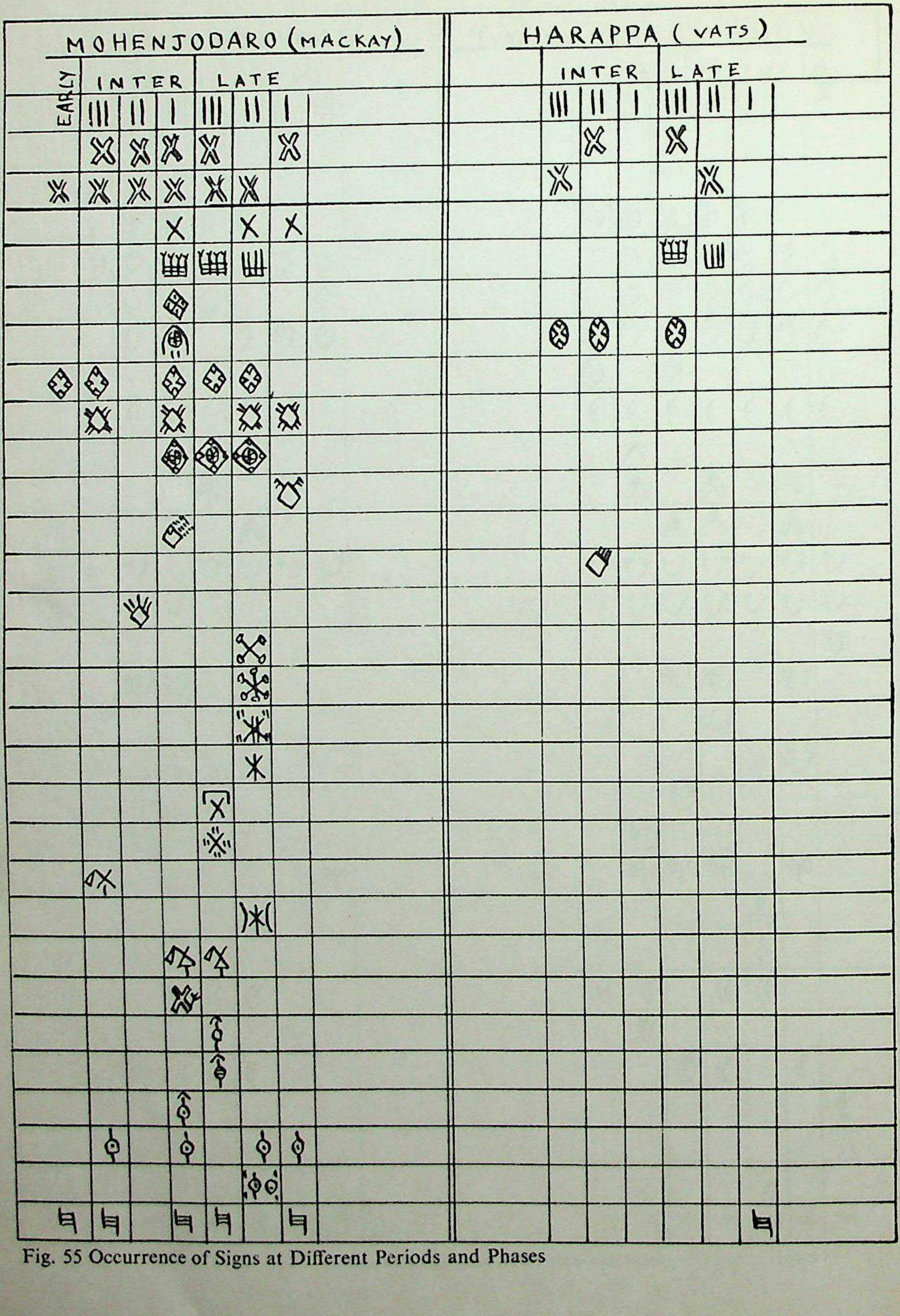

MOHENJODARO (MACKAY)
EARLY
INTER
LATE
III
II
I
III
II
I
HARAPPA (VATS)
INTER
LATE
III
II
I
III
II
I

Fig. 55 Occurrence of Signs at Different Periods and Phases

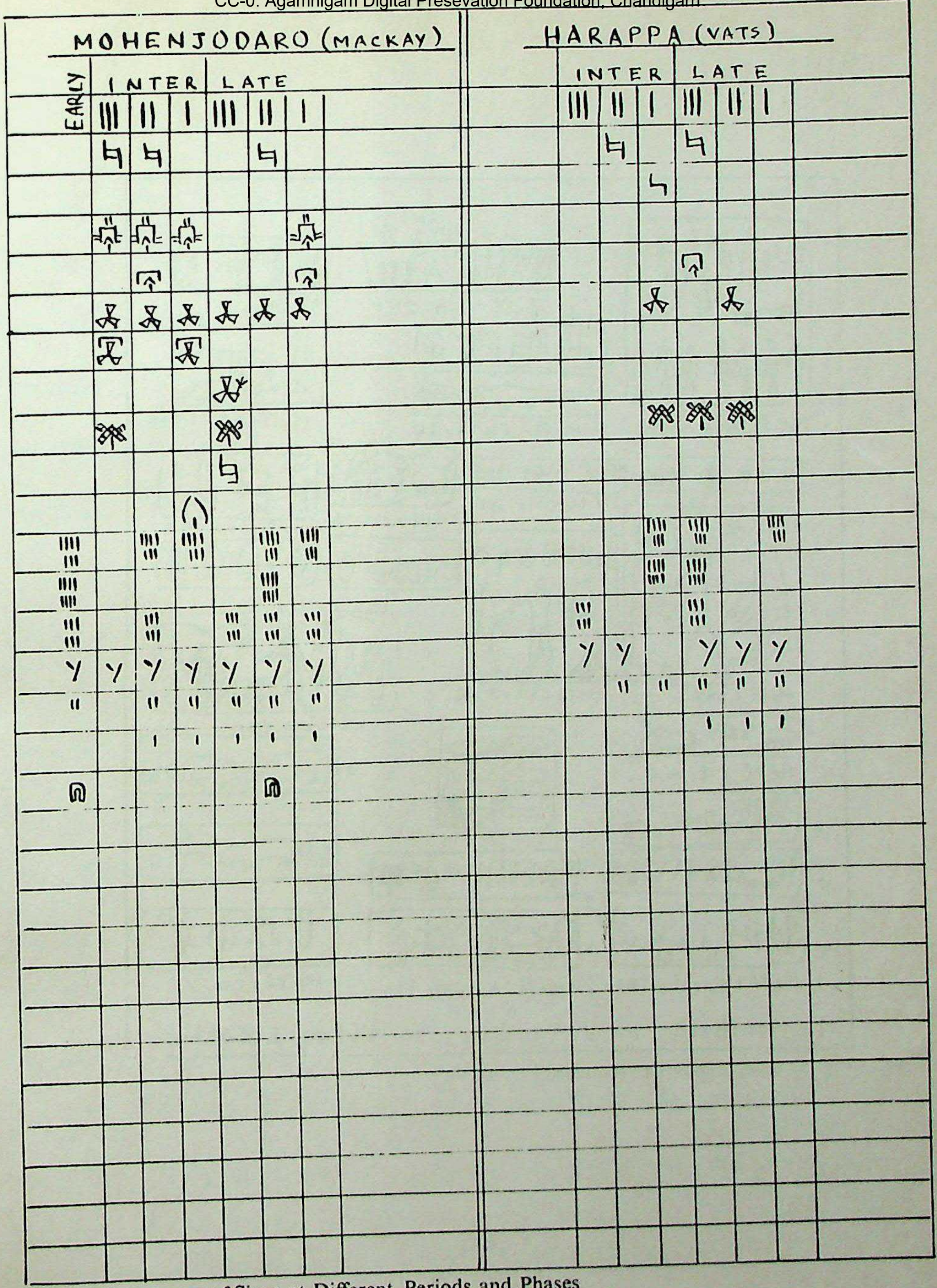

MOHENJODARO (MACKAY)
HARAPPA (VATS)
EARLY
INTER
LATE
INTER
LATE

Fig. 56 Occurrence of Signs at Different Periods and Phases

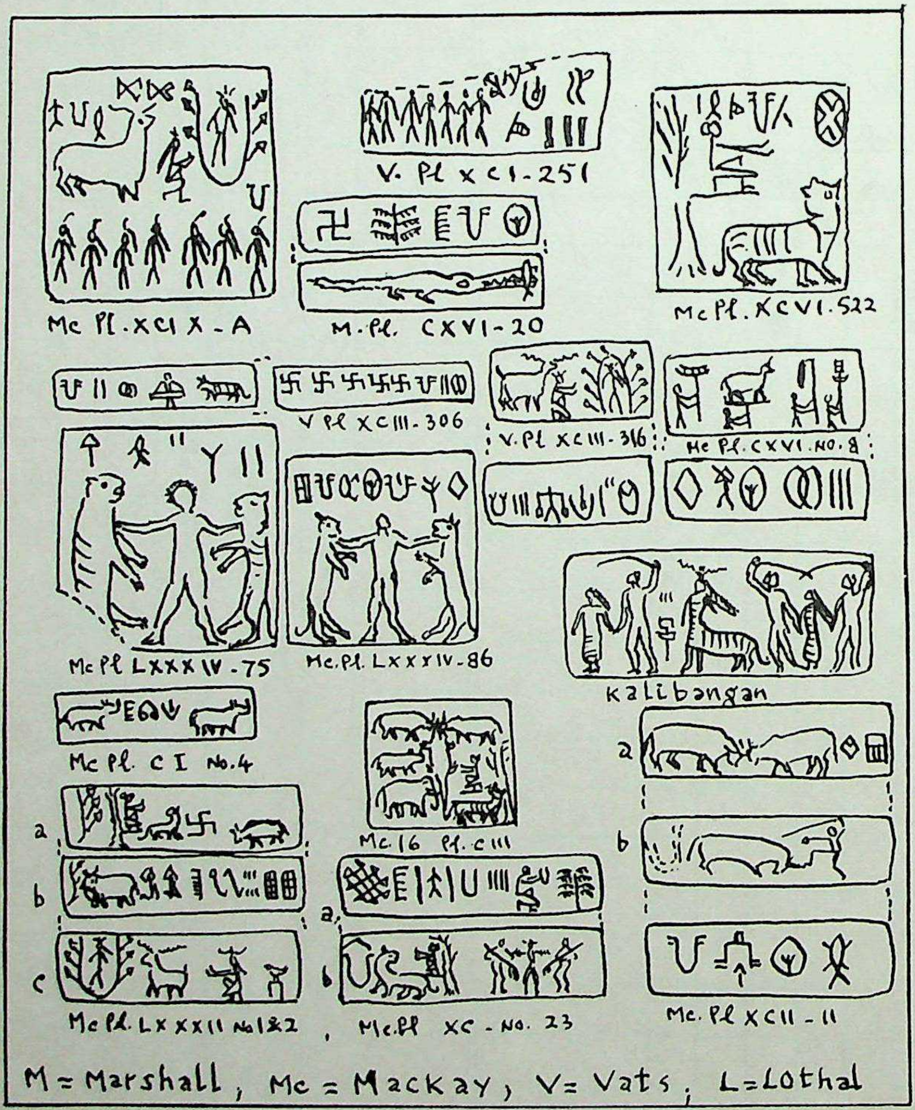
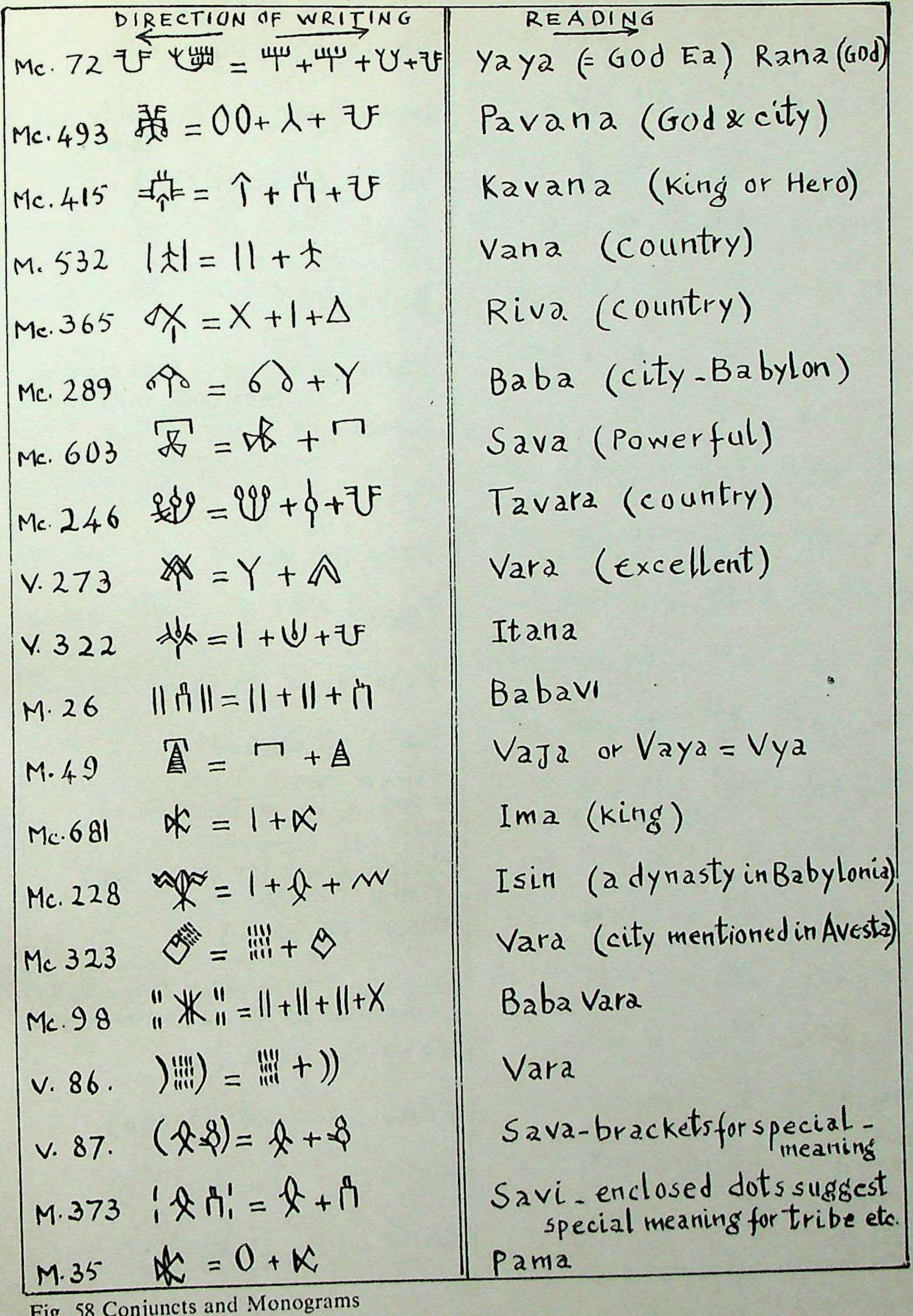
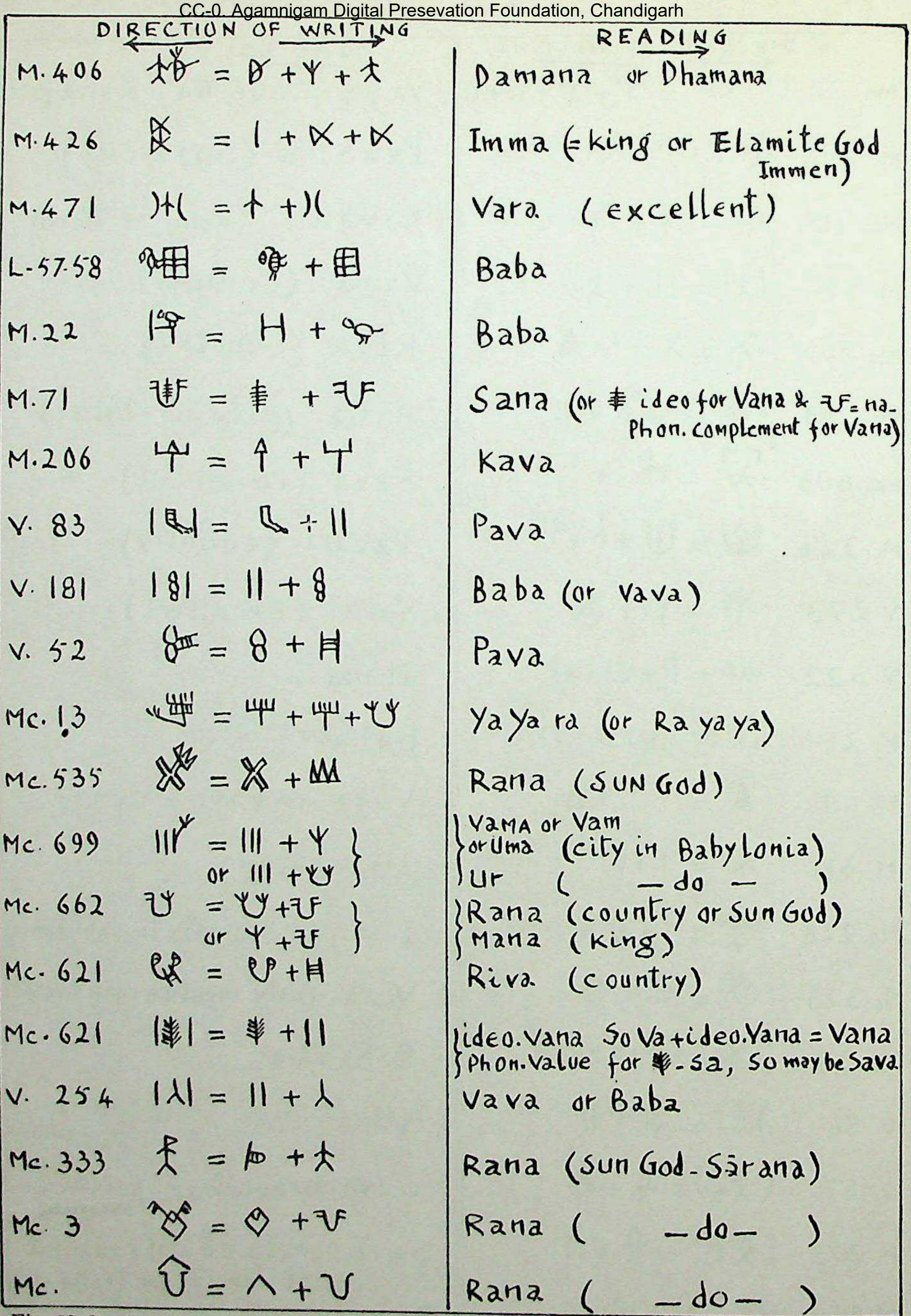

Mc Pl. XCIX - A
V. Pl XCI - 251
M. Pl. CXVI - 20
Mc Pl. XCVI. 522
V Pl XCIII - 306
V. Pl XCIII - 316
Mc Pl. CXVI. No. 8
Mc Pl LXXXIV - 75
Mc. Pl. LXXXIV - 86
Kalibangan
Mc Pl. CI No. 4
Mc. 16 Pl. CIII
a
b
c
Mc Pl. LXXXII No 1 & 2
a
b
Mc. Pl XC - No. 23
a
b
Mc. Pl XCII - 11
M = Marshall, Mc = Mackay, V = Vats, L = Lothal

Fig. 57 Seals Depicting Historical Events, etc.



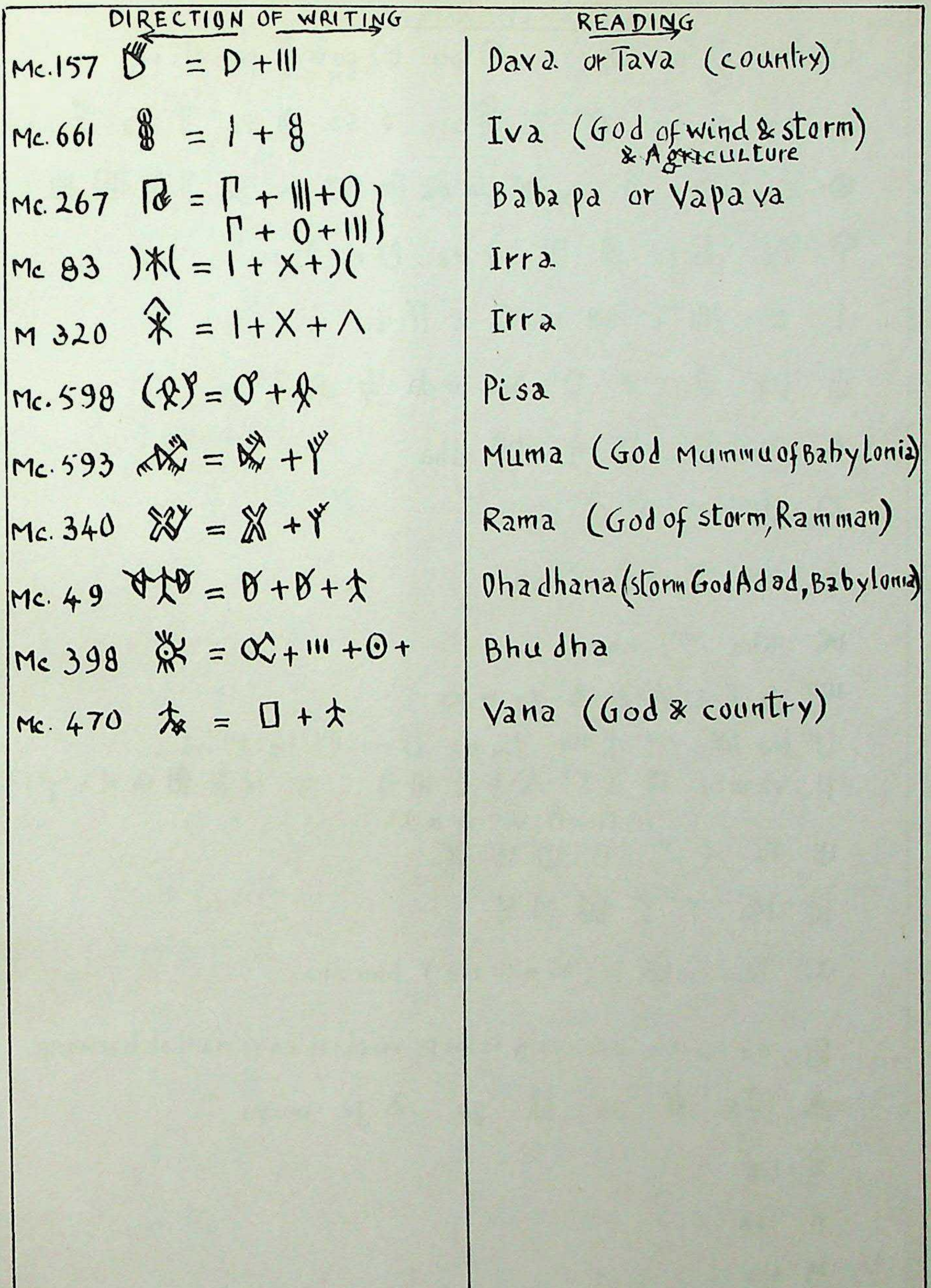
DIRECTION OF WRITING	READING
Mc. 72	Yaya (= God Ea) Rana (God)
Mc. 493	Pavana (God & city)
Mc. 415	Kavana (King or Hero)
M. 532	Vana (country)
Mc. 365	Riva (country)
Mc. 289	Baba (city - Babylon)
Mc. 603	Sava (Powerful)
Mc. 246	Tavara (country)
V. 273	Vara (excellent)
V. 322	Itana
M. 26	Babavi
M. 49	Vaja or Vaya = Vya
Mc. 681	Ima (king)
Mc. 228	Isin (a dynasty in Babylonia)
Mc 323	Vara (city mentioned in Avesta)
Mc. 98	Baba Vara
V. 86.	Vara
V. 87.	Sava - brackets for special - meaning
M. 373	Savi - enclosed dots suggest special meaning for tribe etc.
M. 35	Pama

Fig. 58 Conjuncts and Monograms


DIRECTION OF WRITING

	READING
M.406	Damana or Dhamana
M.426	Imma (= king or Elamite God Immen)
M.471	Vara (excellent)
L-57-58	Baba
M.22	Baba
M.71	Sana (or ideo for Vana & = na- Phon. complement for Vana)
M.206	Kava
V. 83	Pava
V. 181	Baba (or Vava)
V. 52	Pava
Mc. 13	Yaya ra (or Ra ya ya)
Mc. 535	Rana (SUN God)
Mc. 699	Vama or Vam or Uma (city in Babylonia) Ur (— do —)
Mc. 662	Rana (country or Sun God) Mana (king)
Mc. 621	Riva (country)
Mc. 621	ideo. Vana So Va + ideo. Vana = Vana Phon. Value for -sa, so may be Sava
V. 254	Vava or Baba
Mc. 333	Rana (Sun God - Sārana)
Mc. 3	Rana (— do —)
Mc.	Rana (— do —)

Fig. 59 Conjuncts and Monograms



DIRECTION OF WRITING	READING
Mc.157	Dava or Tava (country)
Mc. 661	Iva (God of wind & storm) & Agriculture
Mc. 267	Babapa or Vapava
Mc 83	Irra
M 320	Irra
Mc. 598	Pisa
Mc. 593	Muma (God Mummu of Babylonia)
Mc. 340	Rama (God of storm, Ramman)
Mc. 49	Dhadhana (storm God Adad, Babylonia)
Mc 398	Bhudha
Mc. 470	Vana (God & country)

Fig. 60 Conjuncts and Monograms

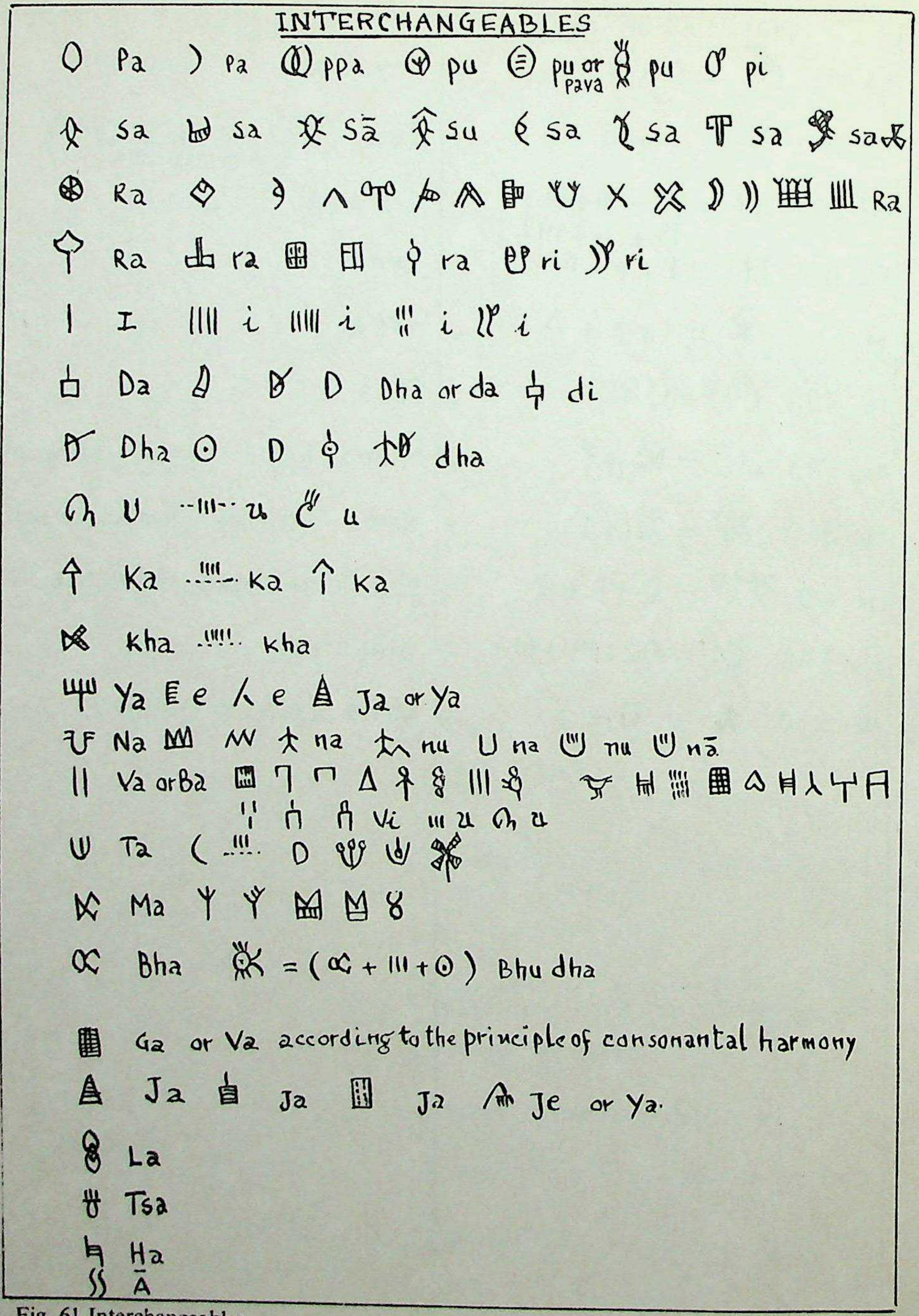

INTERCHANGEABLES
Pa pa ppa pu pu or pava pu pi
sa sa sā su sa sa sa sa
Ra Ra
Ra ra ra ri ri
I i i i i
Da Dha or da di
Dha dha
U u u
Ka ka ka
kha kha
Ya e e Ja or Ya
Na na nu na nu nā
Va or Ba
vi u u
Ta
Ma
Bha = (+ +) Bhu dha
Ga or Va according to the principle of consonantal harmony
Ja Ja Ja Je or Ya.
La
Tsa
Ha
Ā

Fig. 61 Interchangeables

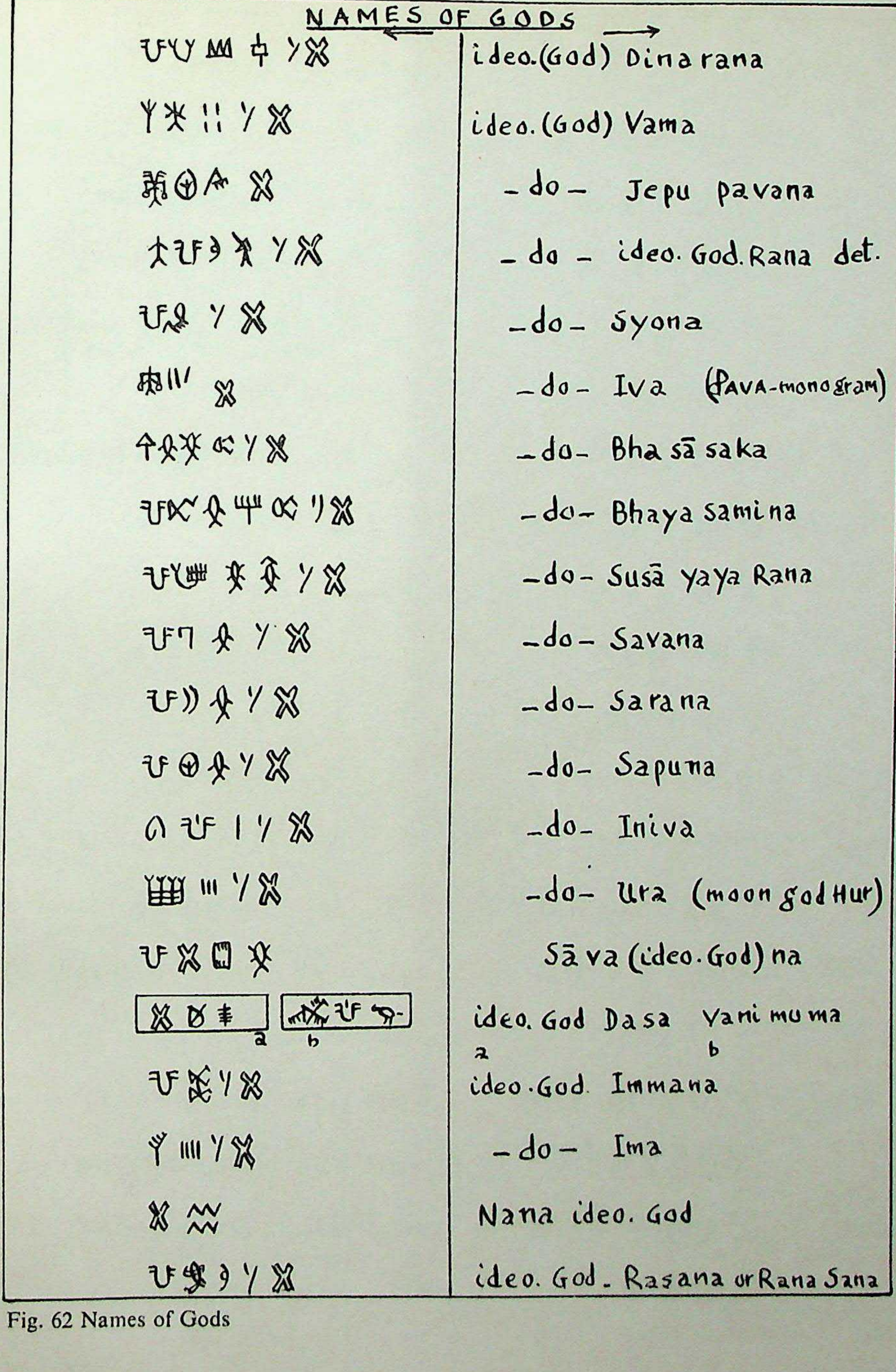
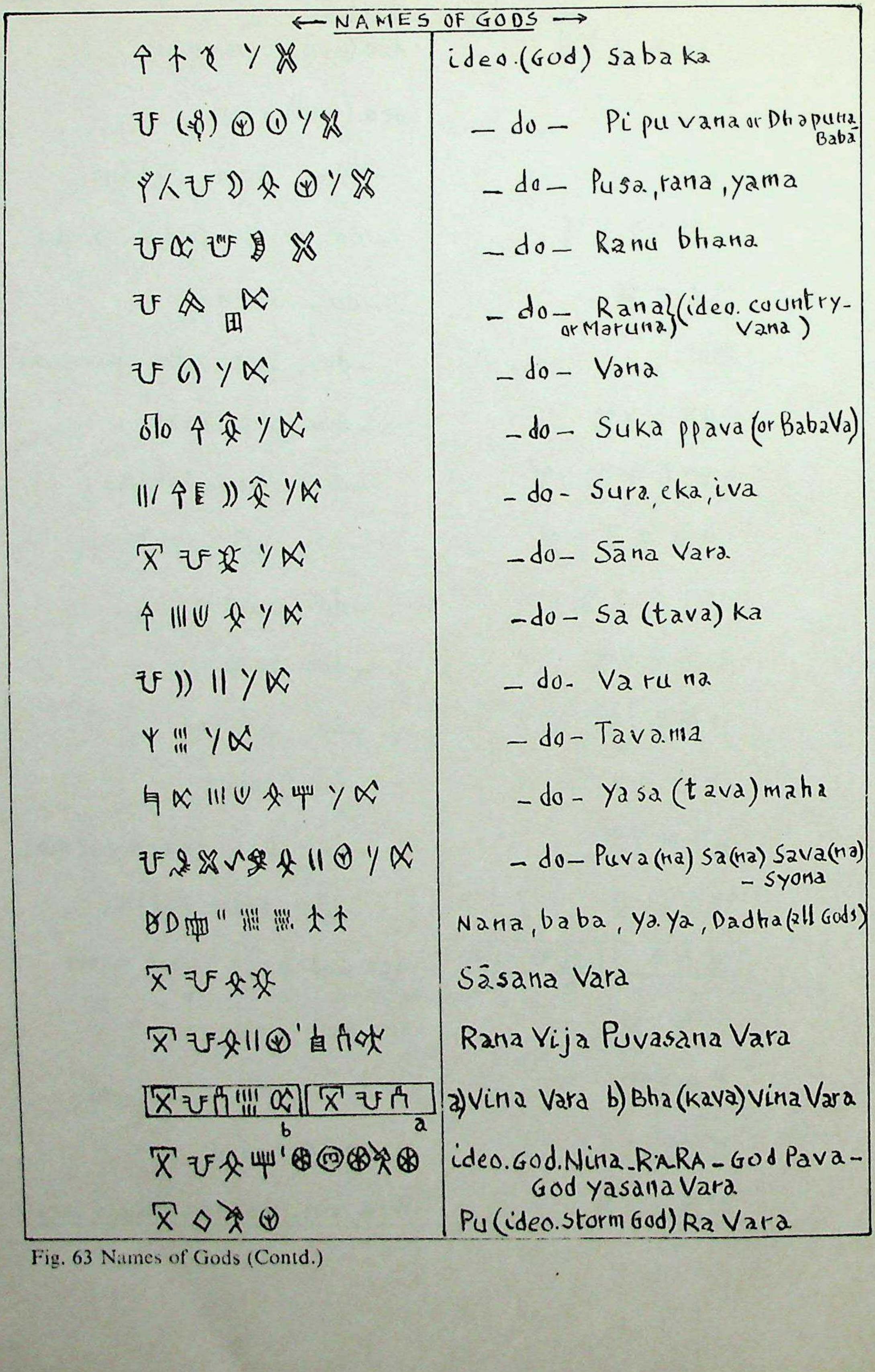

NAMES OF GODS
ideo.(God) Dinarana
ideo.(God) Vama
-do- Jepu pavana
-do- ideo. God. Rana det.
-do- Syona
-do- Iva (PAVA-monogram)
-do- Bhasāsaka
-do- Bhaya samina
-do- Susā yaya Rana
-do- Savana
-do- Sarana
-do- Sapuna
-do- Iniva
-do- Ura (moon god Hur)
Sāva (ideo. God) na
a
b
ideo. God Dasa Vanimuma
a
b
ideo. God Immana
-do- Ima
Nana ideo. God
ideo. God - Rasana or Rana Sana

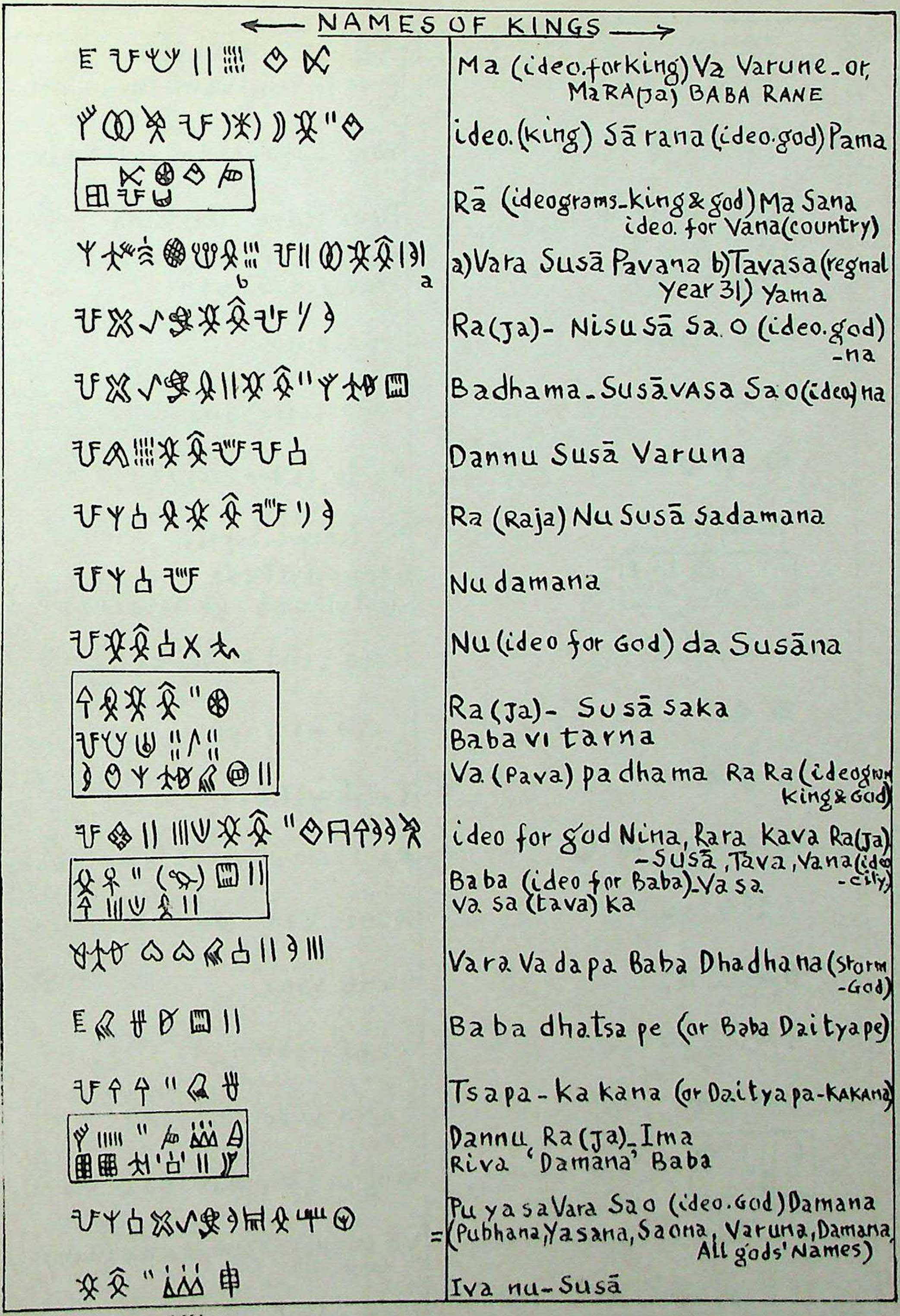
Fig. 62 Names of Gods



← NAMES OF GODS →

ideo. (God) Sabaka
— do — Pi pu vana or Dhaputta Baba
— do — Pusa, rana, yama
— do — Ranu bhana
— do — Rana (or Maruna) (ideo. country-Vana)
— do — Vana
— do — Suka ppava (or BabaVa)
— do — Sura, eka, iva
— do — Sāna Vara
— do — Sa (tava) ka
— do — Varuna
— do — Tavama
— do — Yasa (tava) maha
— do — Puva (na) Sa(na) Sava(na) - Syona
Nana, baba, ya.ya, Dadha (all Gods)
Sāsana Vara
Rana Vija Puvasana Vara
a) Vina Vara b) Bha (kava) Vina Vara
ideo. God. Nina_RARA - God Pava - God Yasana Vara
Pu (ideo. Storm God) Ra Vara

Fig. 63 Names of Gods (Contd.)



NAMES OF KINGS

Ma (ideo.for king) Va Varune-or,
MaRA(ja) BABA RANE

ideo.(king) Sā rana (ideo.god) Pama

Rā (ideograms-king & god) Ma Sana
ideo. for Vana(country)

a) Vara Susā Pavana b) Tavasa (regnal Year 31) Yama

Ra(Ja)- Nisu Sā Sa. O (ideo.god) -na

Badhama-SusāvASa Sa O(ideo) na

Dannu Susā Varuna

Ra (Raja) Nu Susā Sadamana

Nu damana

Nu (ideo for God) da Susāna

Ra (Ja)- Susā saka
Baba vi tarna
Va. (Pava) padhama Ra Ra (ideogram king & God)

ideo for god Nina, Rara Kava Ra(Ja) -Susā, Tava, Vana (ideo-city)

Baba (ideo for Baba)-Va sa
va sa (tava) ka

Vara Va da pa Baba Dhadhana (storm-God)

Baba dhatsa pe (or Baba Daityape)

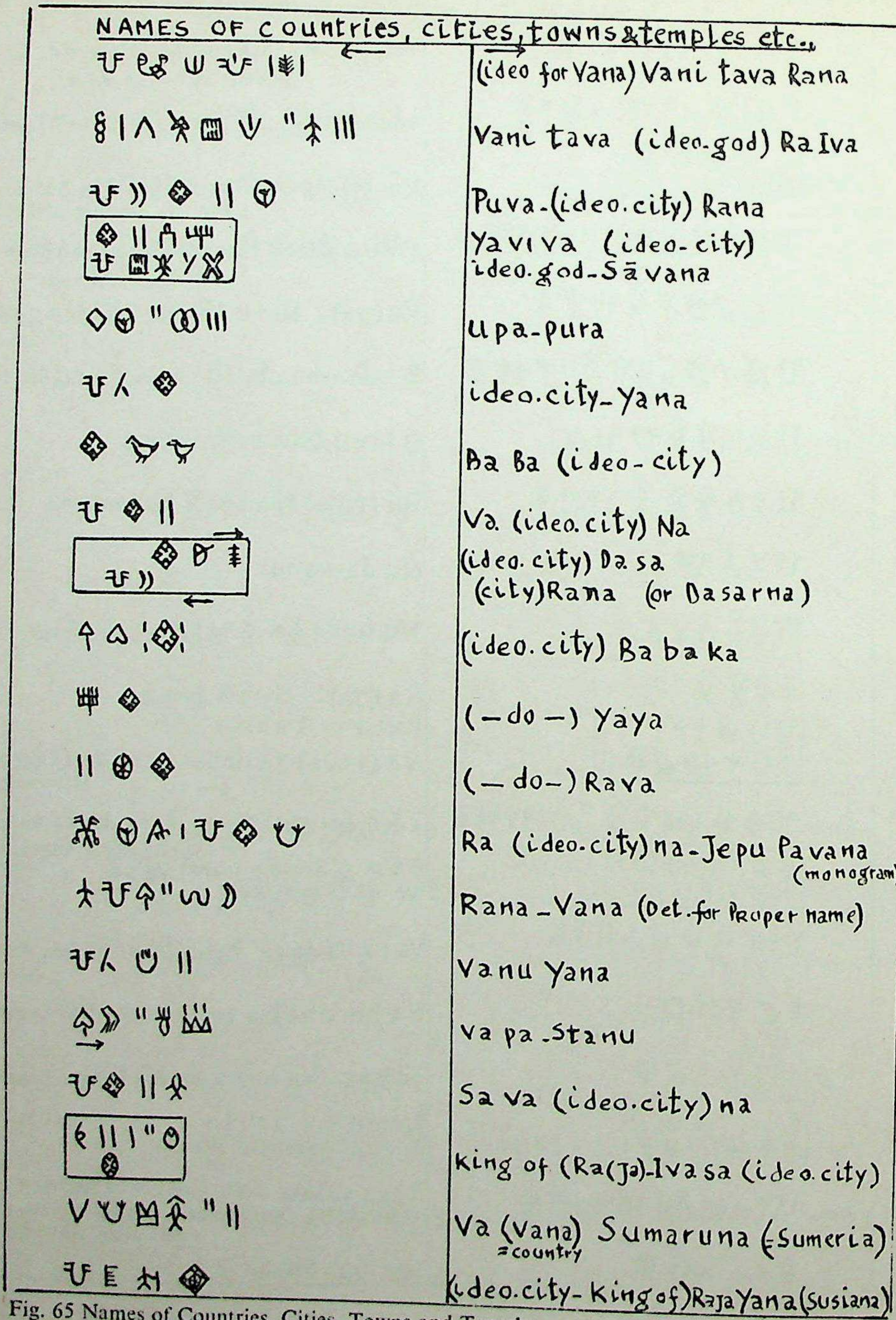
Tsapa-Ka kana (or Daityapa-KAKANA)

Dannu, Ra(Ja)-Ima
Riva 'Damana' Baba

Pu ya sa Vara Sao (ideo. God) Damana
=(Pubhana, Yasana, Saona, Varuna, Damana, All gods' Names)

Iva nu-Susā

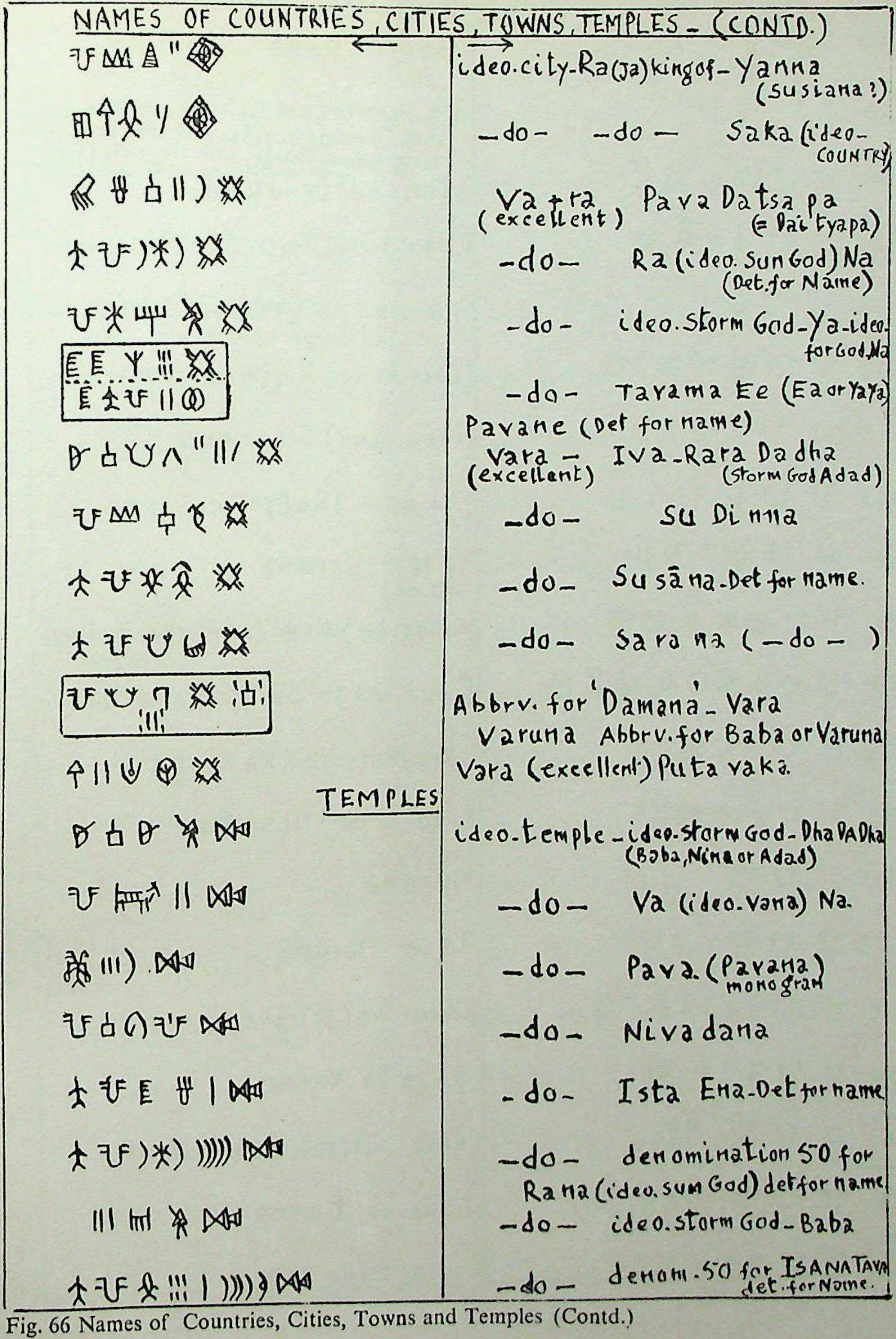
Fig. 64 Names of Kings



NAMES OF countries, cities, towns & temples etc.

(ideo for Vana) Vani tava Rana
Vani tava (ideo-god) Ra Iva
Puva-(ideo.city) Rana
Yaviva (ideo-city) ideo.god-Sāvana
upa-pura
ideo.city-Yana
Ba Ba (ideo-city)
Va. (ideo.city) Na
(ideo. city) Dasa (city)Rana (or Dasarna)
(ideo. city) Babaka
(-do-) Yaya
(-do-) Rava
Ra (ideo.city)na-Jepu Pavana (monogram)
Rana-Vana (Det. for Proper name)
Vanu Yana
va pa-Stanu
Sa va (ideo.city) na
king of (Ra(Ja)-Ivasa (ideo.city)
Va (Vana) =country Sumaruna (=Sumeria)
(ideo.city-King of) RajaYana (Susiana)

Fig. 65 Names of Countries, Cities, Towns and Temples



NAMES OF COUNTRIES, CITIES, TOWNS, TEMPLES – (CONTD.)

ideo. city-Ra(Ja) king of – Yanna (Susiana ?)

–do– –do– Saka (ideo-COUNTRY)

Vatra (excellent) Pava Datsapa (= Daityapa)

–do– Ra (ideo. Sun God) Na (Det. for Name)

–do– ideo. Storm God-Ya-ideo. for God. Na

–do– Tarama Ee (Ea or Yaya) Pavane (Det for name)

Vara – (excellent) Iva-Rara Dadha (Storm God Adad)

–do– Su Dinna

–do– Susāna-Det for name.

–do– Sarana (–do–)

Abbrv. for 'Damana' – Vara
Varuna Abbrv. for Baba or Varuna

Vara (excellent) Putavaka.

TEMPLES

ideo-temple – ideo-storm God – DhaDADha (Baba, Nina or Adad)

–do– Va (ideo-Vana) Na.

–do– Pava. (Pavana monogram)

–do– Nivadana

–do– Ista Ena-Det for name

–do– denomination 50 for Rana (ideo. sun God) det for name

–do– ideo. storm God – Baba

–do– denom. 50 for ISANATAVA det. for Name.

Fig. 66 Names of Countries, Cities, Towns and Temples (Contd.)

← MORPHOLOGY →

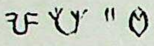
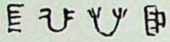
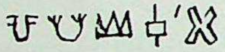
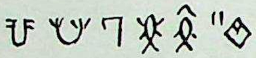
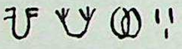
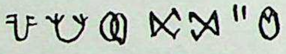
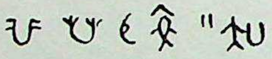
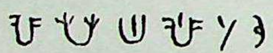
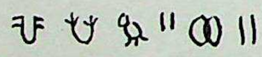
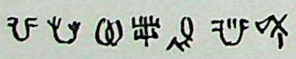
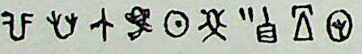
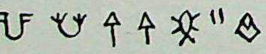
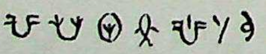
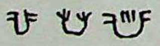
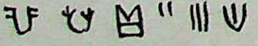
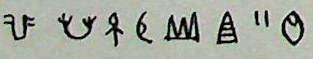
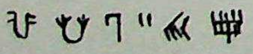
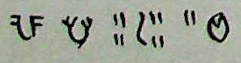
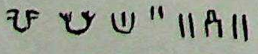
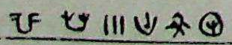
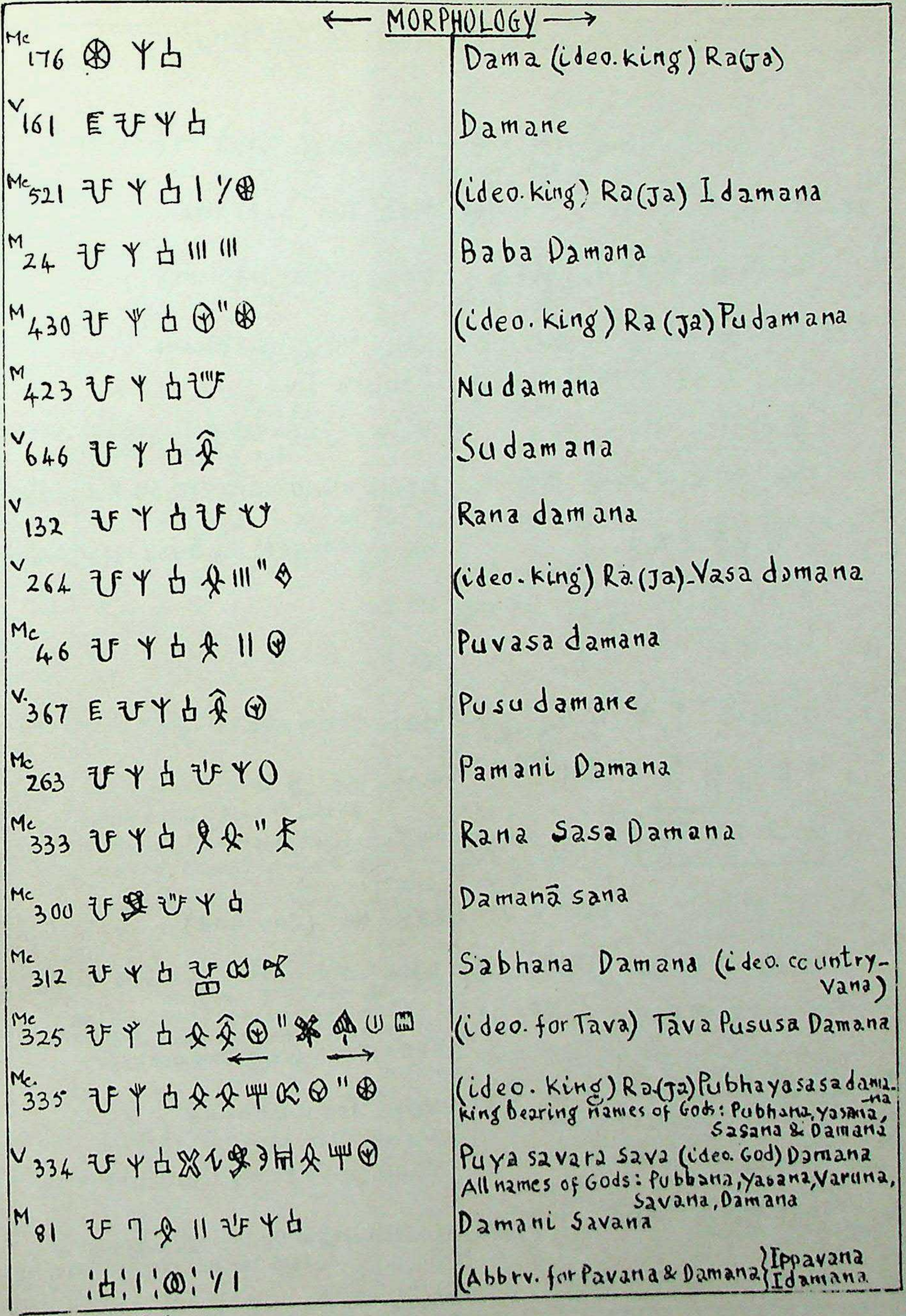
Mc 450		Ra(ja)-Rana
V 435		Varune (certain consonants do not take diacritical marks suggest-ing vowel change, but are added while pronouncing acc.to context.)
Mc 511		(ideo.God) Dina Rana
Mc 327		(ideo.king) Ra(ja) Susā Varuna
V 138		Va ppa rna (or VappaRana) Here 'Ra' drops vowel 'a'
Mc 363		(ideo.king) Ra(ja) Mama pparna
Mc 238		(ideo.king) Susarna
M 145		(— do —) Ra(ja) Nitarna
Mc 141		Va ppa Varuna =(God)
Mc 596		(Monogram).Riva (country) Nā syoyaya -pparna
M 49		Puva yaja Sā tha Savarna
Mc 224		(ideo.) Ra(ja) Sākakarna
Mc 337		(-do- -do-) Nisa Purna
Mc 253		Nurana
Mc 573		Tava Maruna
Mc 290		(ideo- Ra(ja)-Jana Savarna
Mc 166		Yaya pa Varuna
M 162		(ideo- Ra(ja)- Babavaruna
M 26		Baba vi tarna
Mc 655		Pusa tava rana

Fig. 67 Morphology



← MORPHOLOGY →

Mc 176	Dama (ideo. king) Ra(ja)
V 161	Damane
Mc 521	(ideo. king) Ra(ja) Idamana
M 24	Baba Damana
M 430	(ideo. king) Ra (ja) Pudamana
M 423	Nudamana
V 646	Sudamana
V 132	Rana damana
V 264	(ideo. king) Ra (ja) Vasa damana
Mc 46	Puvasa damana
V. 367	Pusu damane
Mc 263	Pamani Damana
Mc 333	Rana Sasa Damana
Mc 300	Damanā sana
Mc 312	Sabhana Damana (ideo. country-vana)
Mc 325	(ideo. for Tava) Tāva Pususa Damana
Mc. 335	(ideo. King) Ra(ja) Pubhayasasadamana king bearing names of Gods: Pubhana, yasana, Sasana & Damana
V 334	Puya savara Sava (ideo. God) Damana All names of Gods: Pubbana, Yasana, Varuna, Savana, Damana
M 81	Damani Savana
	(Abbrv. for Pavana & Damana) Ippavana Idamana

Fig. 68 Morphology

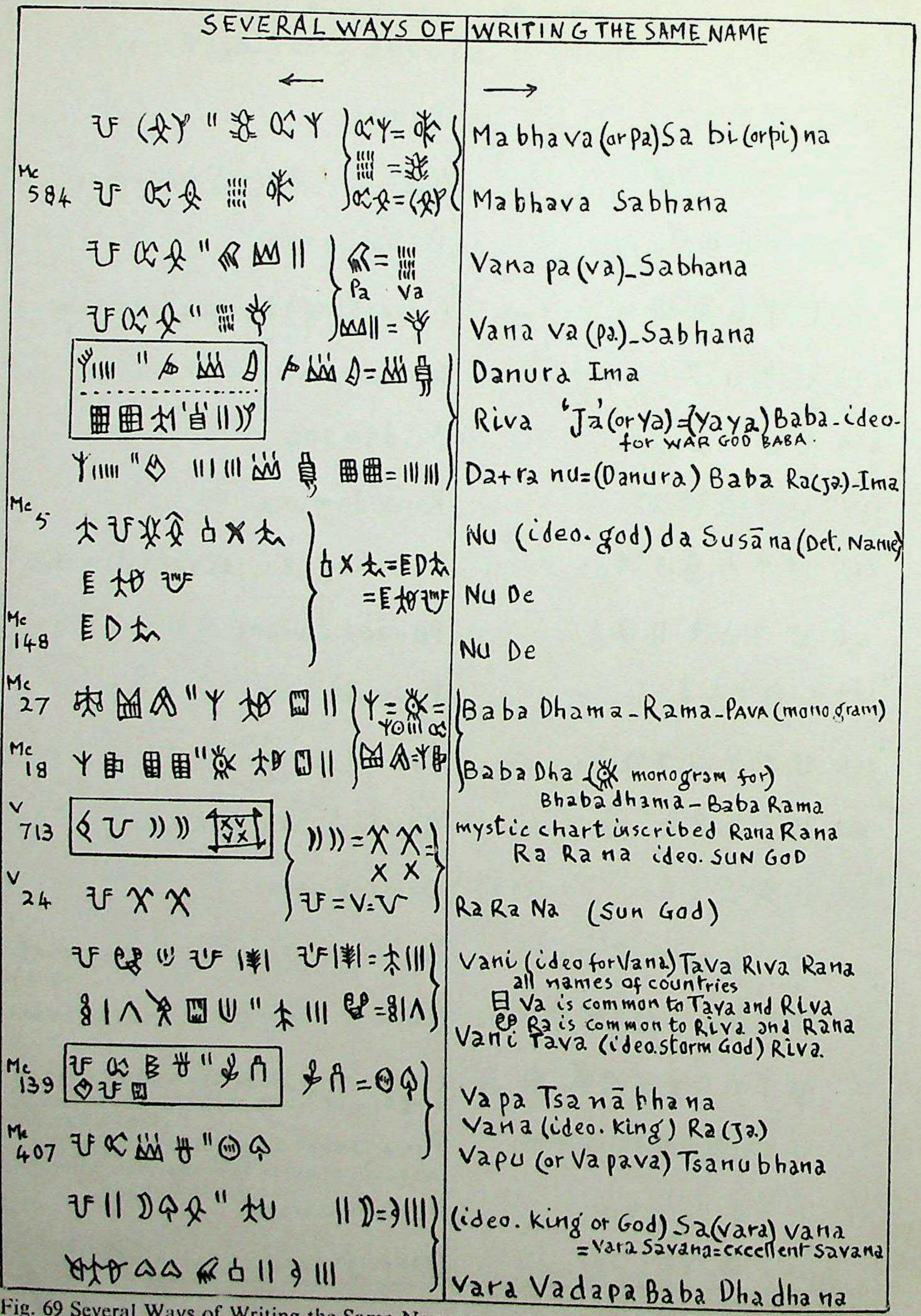

SEVERAL WAYS OF WRITING THE SAME NAME
Mc 584
Mabhava (or pa) Sa bi (or pi) na
Mabhava Sabhana
Pa Va
Vana pa (va)_Sabhana
Vana va (pa)_Sabhana
Danura Ima
Riva 'Ja' (or Ya) = (Yaya) Baba - ideo. for WAR GOD BABA.
Da+ra nu = (Danura) Baba Ra(ja)-Ima
Mc 5
Mc 148
Nu (ideo. god) da Susāna (Det. Name)
Nu De
Nu De
Mc 27
Mc 18
Baba Dhama_Rama_PAVA (monogram)
Baba Dha (monogram for) Bhabadhama - Baba Rama
V 713
V 24
mystic chart inscribed Rana Rana
Ra Rana ideo. SUN GOD
Ra Ra Na (Sun God)
Vani (ideo for Vana) Tava Riva Rana
all names of countries
Va is common to Tava and Riva
Ra is common to Riva and Rana
Vani Tava (ideo. storm God) Riva.
Mc 139
Mc 407
Vapa Tsanābhana
Vana (ideo. king) Ra (ja)
Vapu (or Vapava) Tsanubhana
(ideo. king or God) Sa(vara) vana
= Vara Savana = excellent Savana
Vara Vadapa Baba Dhadhana

Fig. 69 Several Ways of Writing the Same Name

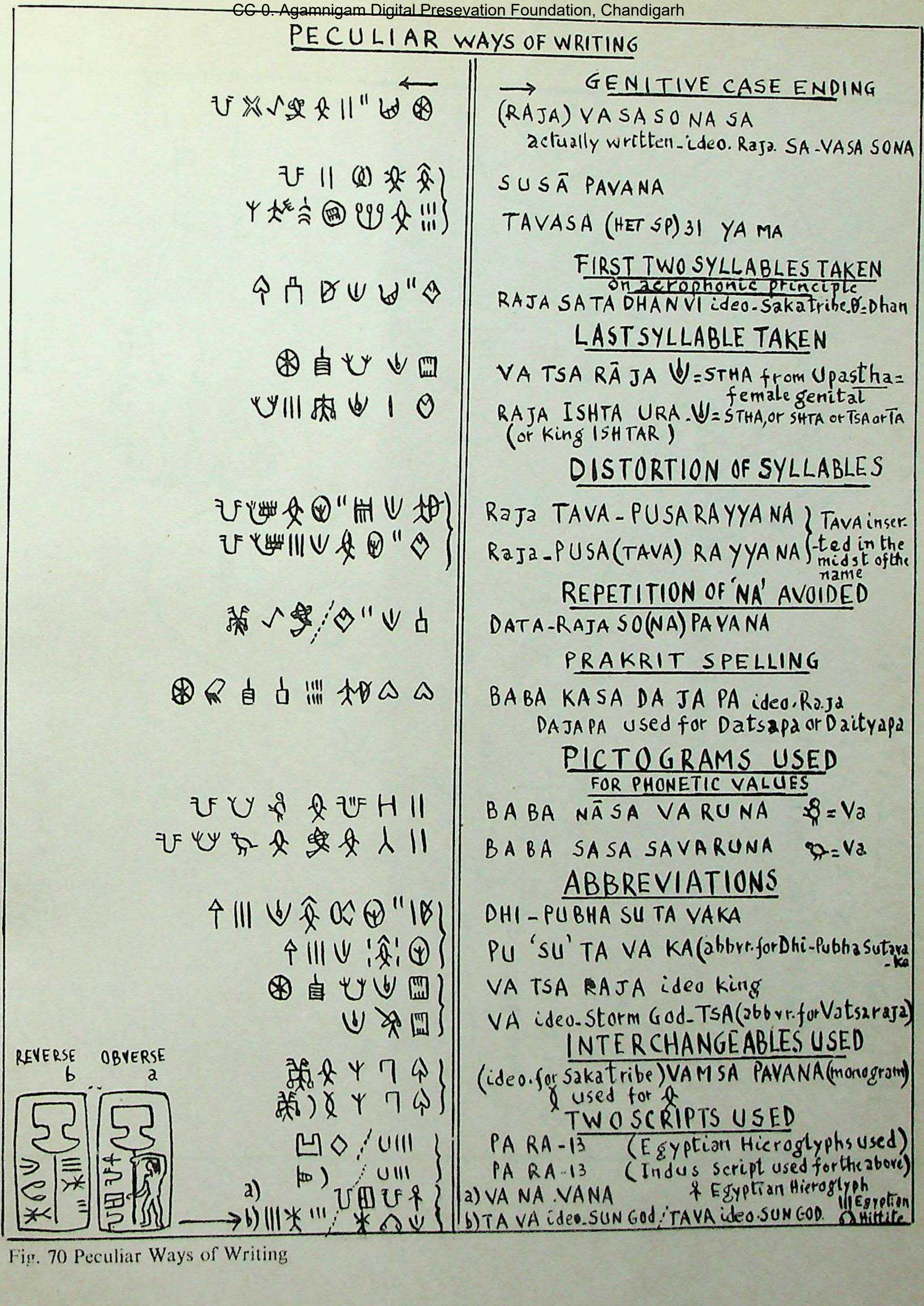

PECULIAR WAYS OF WRITING
GENITIVE CASE ENDING
(RAJA) VA SA SO NA SA
actually written_ideo. Raja. SA-VASA SONA
SUSĀ PAVANA
TAVASA (HET SP) 31 YA MA
FIRST TWO SYLLABLES TAKEN
on acrophonic principle
RAJA SATA DHANVI ideo-Sakatribe. = Dhan
LAST SYLLABLE TAKEN
VA TSA RĀ JA = STHA from Upastha = female genital
RAJA ISHTA URA. = STHA, or SHTA or TSA or TA
(or King ISHTAR)
DISTORTION OF SYLLABLES
Raja TAVA-PUSARAYYANA
Raja_PUSA(TAVA) RAYYANA
TAVA inserted in the midst of the name
REPETITION OF 'NA' AVOIDED
DATA-RAJA SO(NA) PAVANA
PRAKRIT SPELLING
BABA KASA DA JA PA ideo. Raja
DAJAPA used for Datsapa or Daityapa
PICTOGRAMS USED
FOR PHONETIC VALUES
BABA NĀSA VARUNA = Va
BABA SASA SAVARUNA = Va
ABBREVIATIONS
DHI-PUBHA SU TA VAKA
PU 'SU' TA VA KA (abbr. for Dhi-Pubha Sutava-Ka
VA TSA RAJA ideo king
VA ideo_Storm God_TSA (abbr. for Vatsaraja)
INTERCHANGEABLES USED
(ideo. for Sakatribe) VAMSA PAVANA (monogram)
used for
TWO SCRIPTS USED
PA RA-13 (Egyptian Hieroglyphs used)
PA RA-13 (Indus script used for the above)
a) VA NA .VANA
Egyptian Hieroglyph
b) TA VA ideo_SUN God; TAVA ideo. SUN GOD.
Egyptian
Hittite
REVERSE
b
OBVERSE
a
a)
b)

Fig. 70 Peculiar Ways of Writing

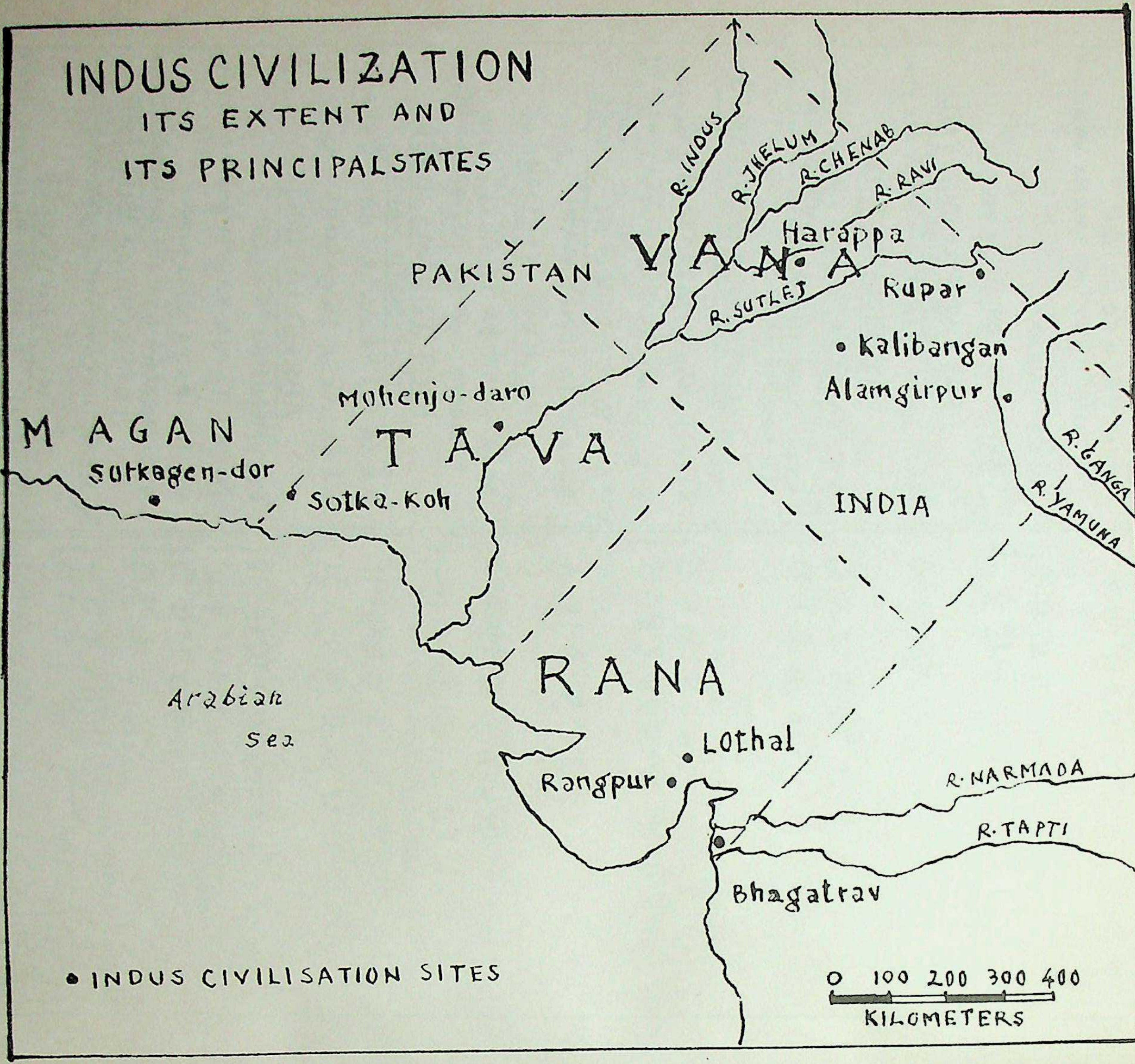
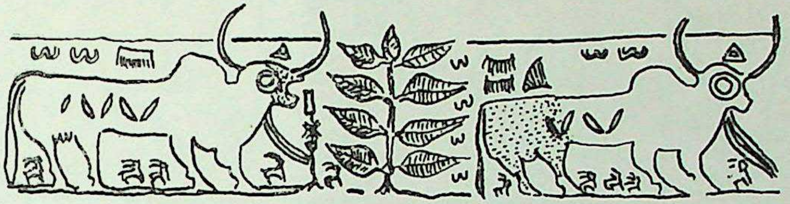
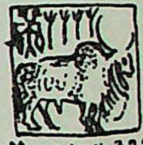

INDUS CIVILIZATION
ITS EXTENT AND
ITS PRINCIPALSTATES
PAKISTAN
V A N A
Harappa
Rupar
R. INDUS
R. JHELUM
R. CHENAB
R. RAVI
R. SUTLEJ
Kalibangan
Alamgirpur
R. GANGA
R. YAMUNA
INDIA
Mohenjo-daro
M A G A N
T A V A
Sutkagen-dor
Sotka-Koh
R A N A
Arabian
Sea
Lothal
Rangpur
R. NARMADA
R. TAPTI
Bhagatrav
INDUS CIVILISATION SITES
0 100 200 300 400
KILOMETERS

Fig. 71 Indus Civilization—Its Extent and Its Principal States



AFTER STUART PIGGOT



MACKAY No. 322

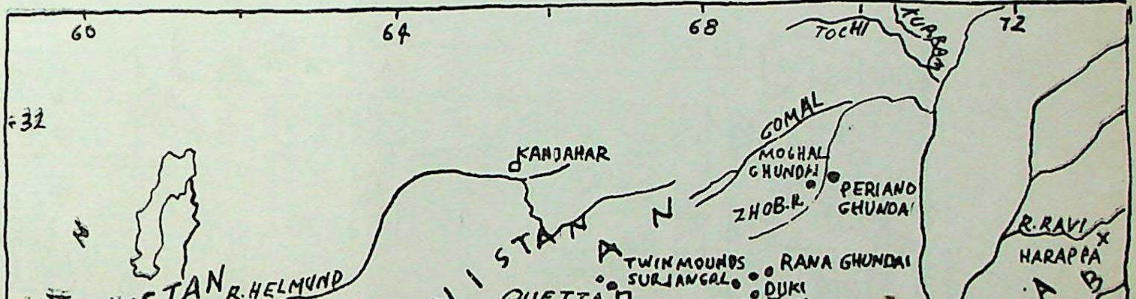

60
64
68
72
TOCHI
KURRAM
32
GOMAL
KANDAHAR
MOGHAL GHUNDAI
PERIANO GHUNDAI
ZHOB R.
R. RAVI
HARAPPA
IRAN
SISTAN
R. HELMUND
AFGHANISTAN
TWIN MOUNDS
SURJANGAL
RANA GHUNDAI
DUKI
LORALAI
DABARKOT
QUETTA
KECHI BEG
30
BALUCHISTAN
SAIYID MAUREZ
TOGAU
TOJI
PUNJAB
R. INDUS
28
ZAYAK
TAGHAZI DAMB
NAL
CHIMRI
BADRANG DAMB
KARGUSHKI DAMB
KALATUK
KHOZDAR
KHIRTHAR RANGE
MOHENJO-DARO
RAJPUTANA
DAMIN
KATUKAN
CHAH HUSAINI
BAMPUR
KHURAB
MEHI
NOKJO
SHAHDINZAI
PANDI
WAHI
GHAZI SHAH
PERSIAN MAKRAN
GAR
GATI
AWARAN
NUNDARA
KULLI
TIKRI DAMB
SHAHI TUMP
OAP
PAK
ZIK
DAMB BUTHI
AMRI
NAZARABAD
THALE DAMB
SIAHDAMB OF JHAU
KOTHRAS
MAGAN
SUTKAGEN DOR
OTHMANJO BUTHI
SIND
ZHOB SITES ●
NAL SITES ⊙
AMRI SITES ■
KULLI SITES ▽
TOGAU SITES +
HARAPPA & BAMPUR SITES ×
KULLI SITES WITH NAL SHERDS
NAL SITES WITH KULLI SHERDS
SITE WITH TOGAU SHERDS
SCALE OF MILES
50
0
50
100
150

Fig. 72 Distribution of Peasant Farmers in Baluchistan

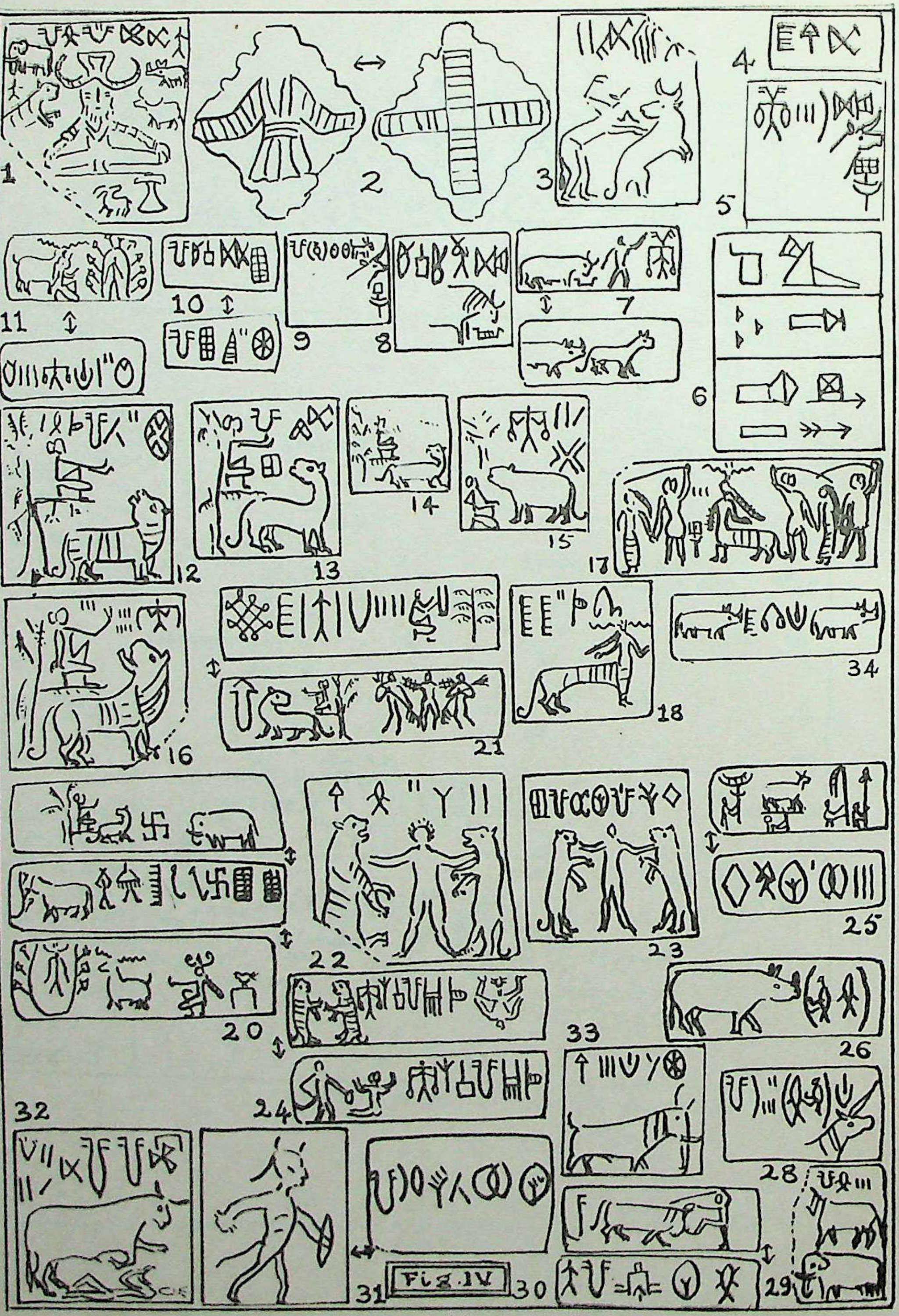

1
2
3
4
5
11
10
9
8
7
6
12
13
14
15
17
16
21
18
34
22
23
25
20
33
26
24
32
28
31
Fig. IV
30
29

Fig. 73 Seals Depicting Historical Events and Important Scenes, etc.

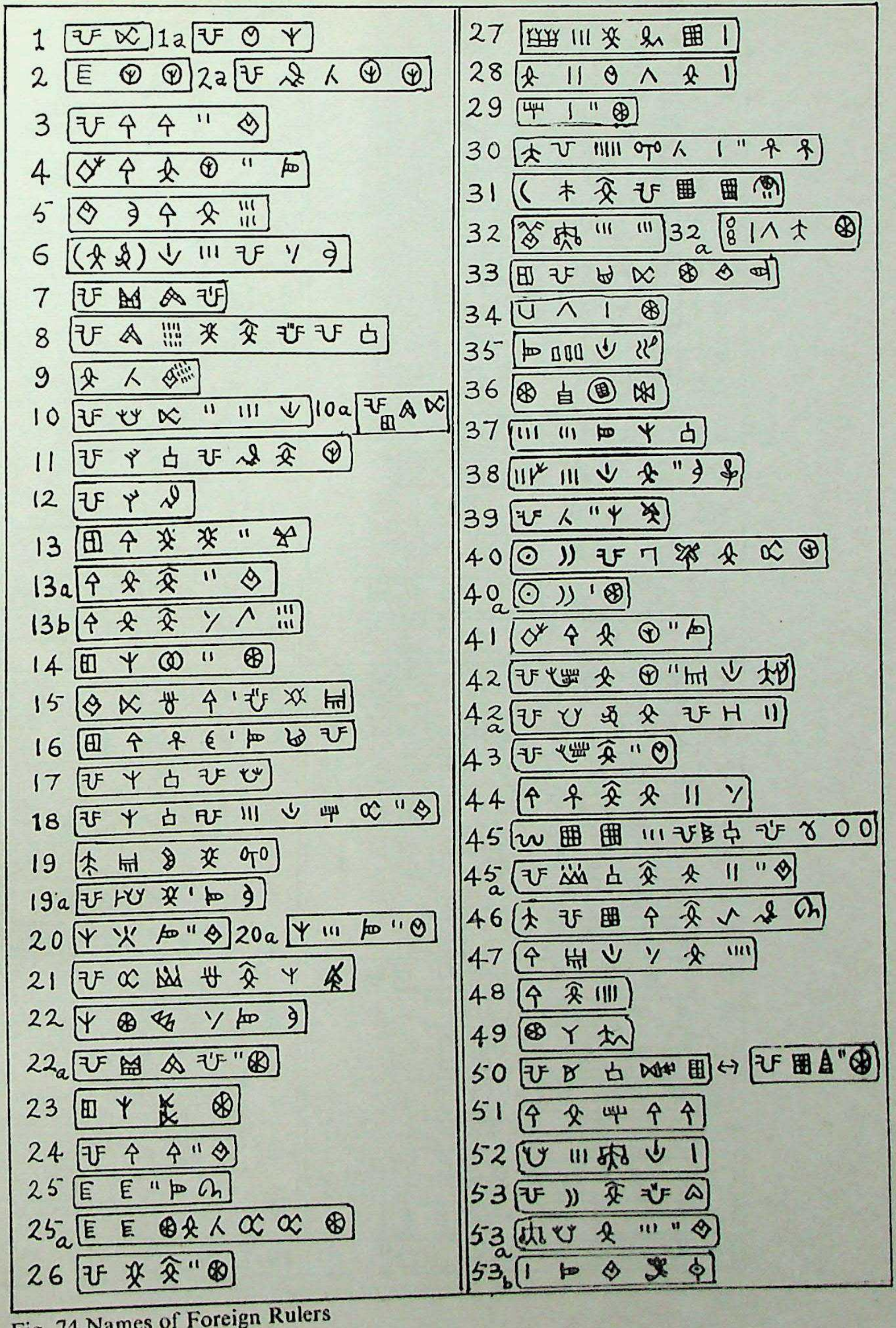

1
1a
2
2a
3
4
5
6
7
8
9
10
10a
11
12
13
13a
13b
14
15
16
17
18
19
19a
20
20a
21
22
22a
23
24
25
25a
26
27
28
29
30
31
32
32a
33
34
35
36
37
38
39
40
40a
41
42
42a
43
44
45
45a
46
47
48
49
50
51
52
53
53a
53b

Fig. 74 Names of Foreign Rulers

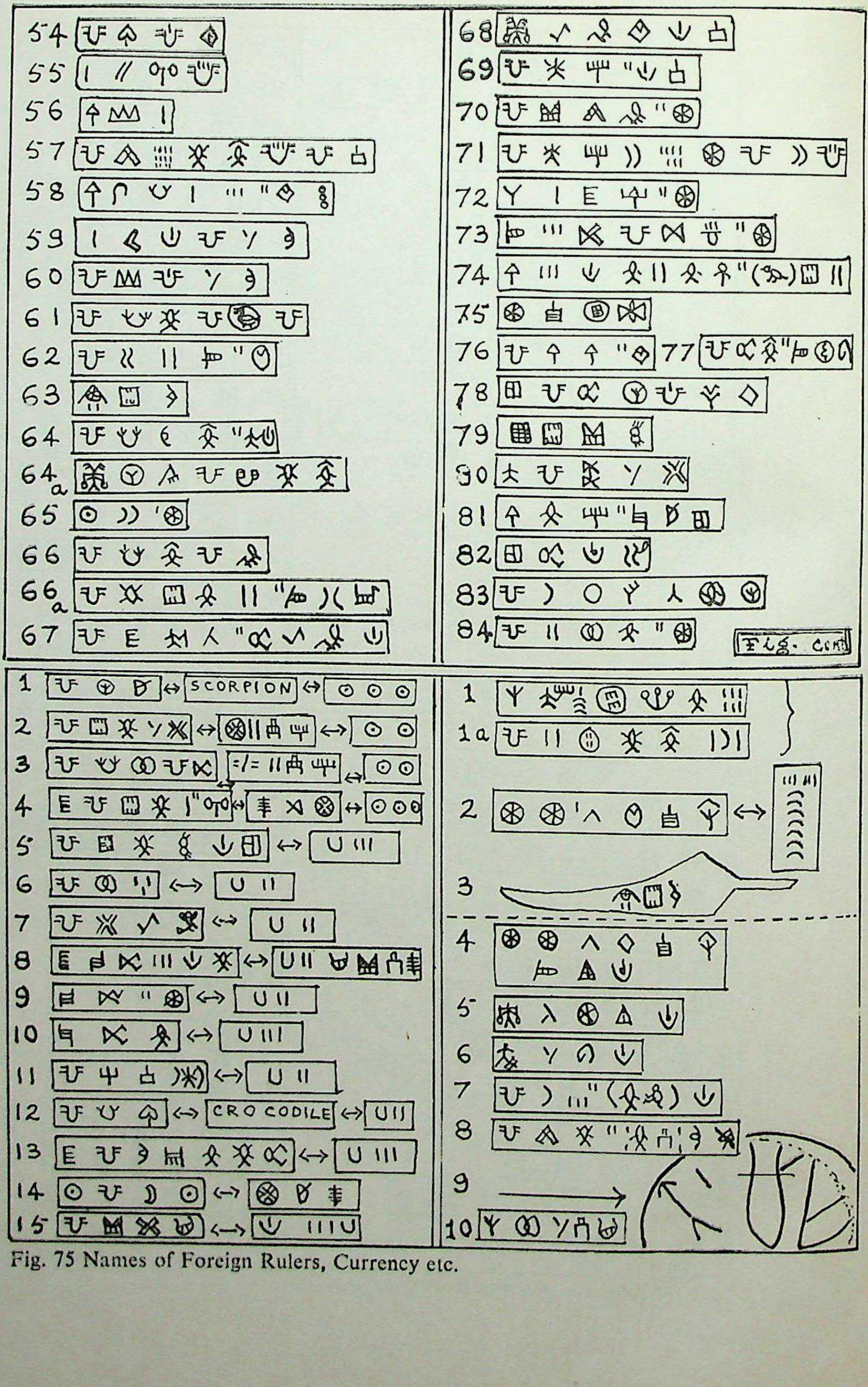
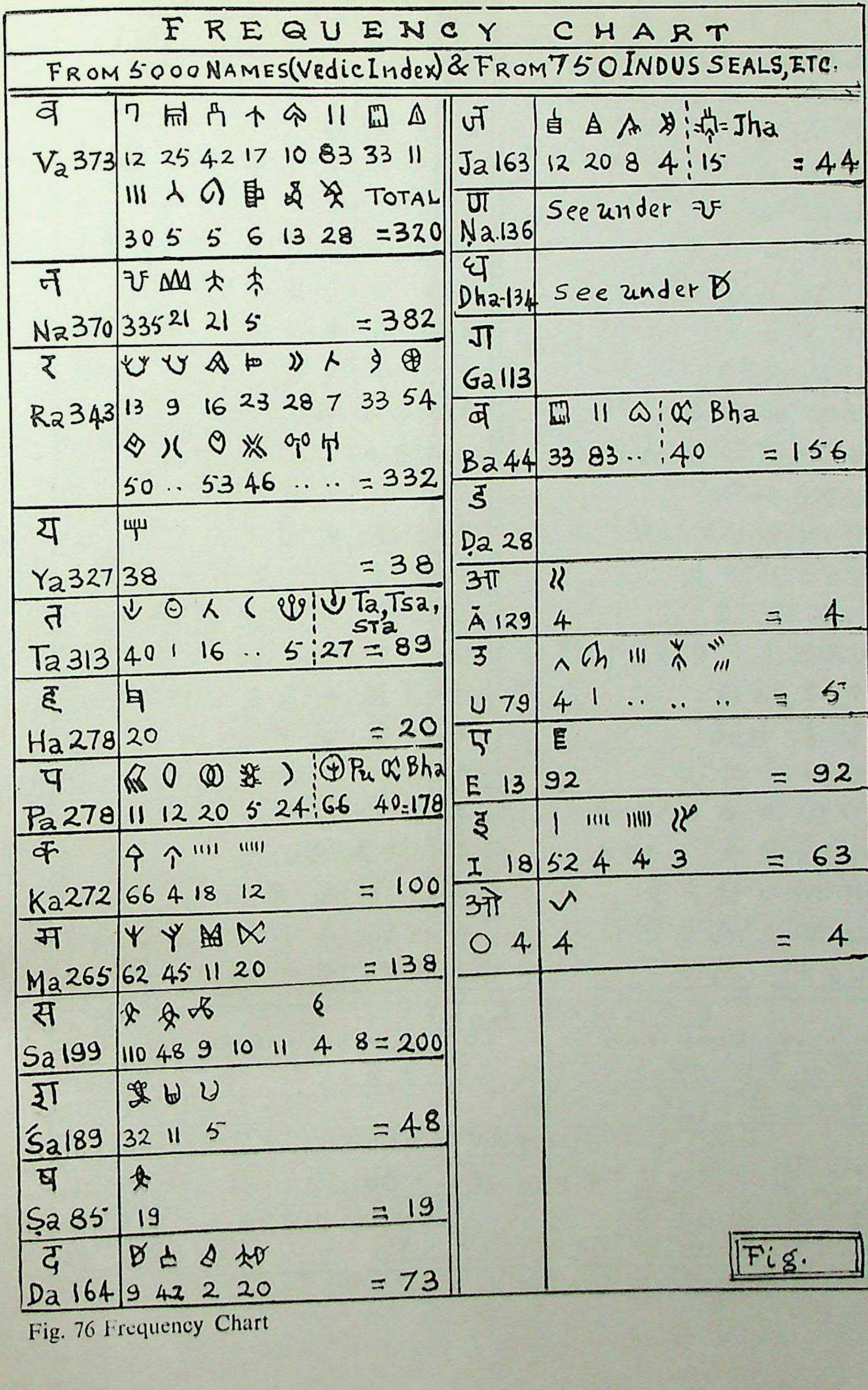

54
55
56
57
58
59
60
61
62
63
64
64a
65
66
66a
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
Fig. Cont
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
SCORPION
CROCODILE
1
1a
2
3
4
5
6
7
8
9
10

Fig. 75 Names of Foreign Rulers, Currency etc.



FREQUENCY CHART

FROM 5000 NAMES (Vedic Index) & FROM 750 INDUS SEALS, ETC.

व Va 373	12 25 42 17 10 83 33 11 30 5 5 6 13 28	TOTAL =320
न Na 370	335 21 21 5	= 382
र Ra 343	13 9 16 23 28 7 33 54 50 .. 53 46	= 332
य Ya 327	38	= 38
त Ta 313	40 1 16 .. 5 ¦ Ta, Tsa, sta 27	= 89
ह Ha 278	20	= 20
प Pa 278	11 12 20 5 24 ¦ Pu 66 Bha 40	=178
क Ka 272	66 4 18 12	= 100
म Ma 265	62 45 11 20	= 138
स Sa 199	110 48 9 10 11 4 8	= 200
श Śa 189	32 11 5	= 48
ष Ṣa 85	19	= 19
द Da 164	9 42 2 20	= 73
ज Ja 163	12 20 8 4 ¦ =Jha 15	= 44
ण Ṇa 136	See under	
ध Dha 134	See under	
ग Ga 113		
ब Ba 44	33 83 .. ¦ Bha 40	= 156
ड Ḍa 28		
आ Ā 129	4	= 4
उ U 79	4 1	= 5
ए E 13	92	= 92
इ I 18	52 4 4 3	= 63
ओ O 4	4	= 4

Fig.

Fig. 76 Frequency Chart

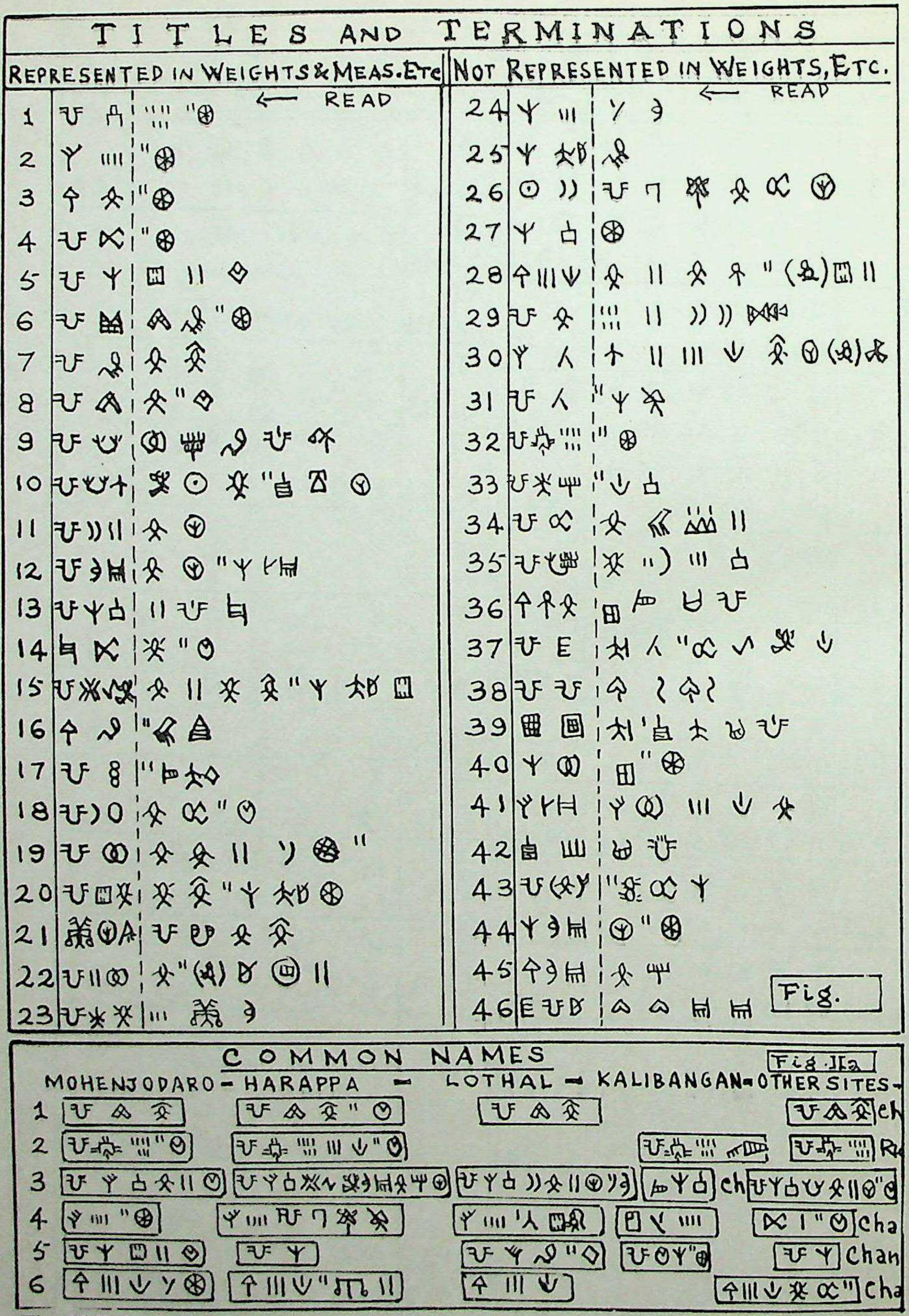
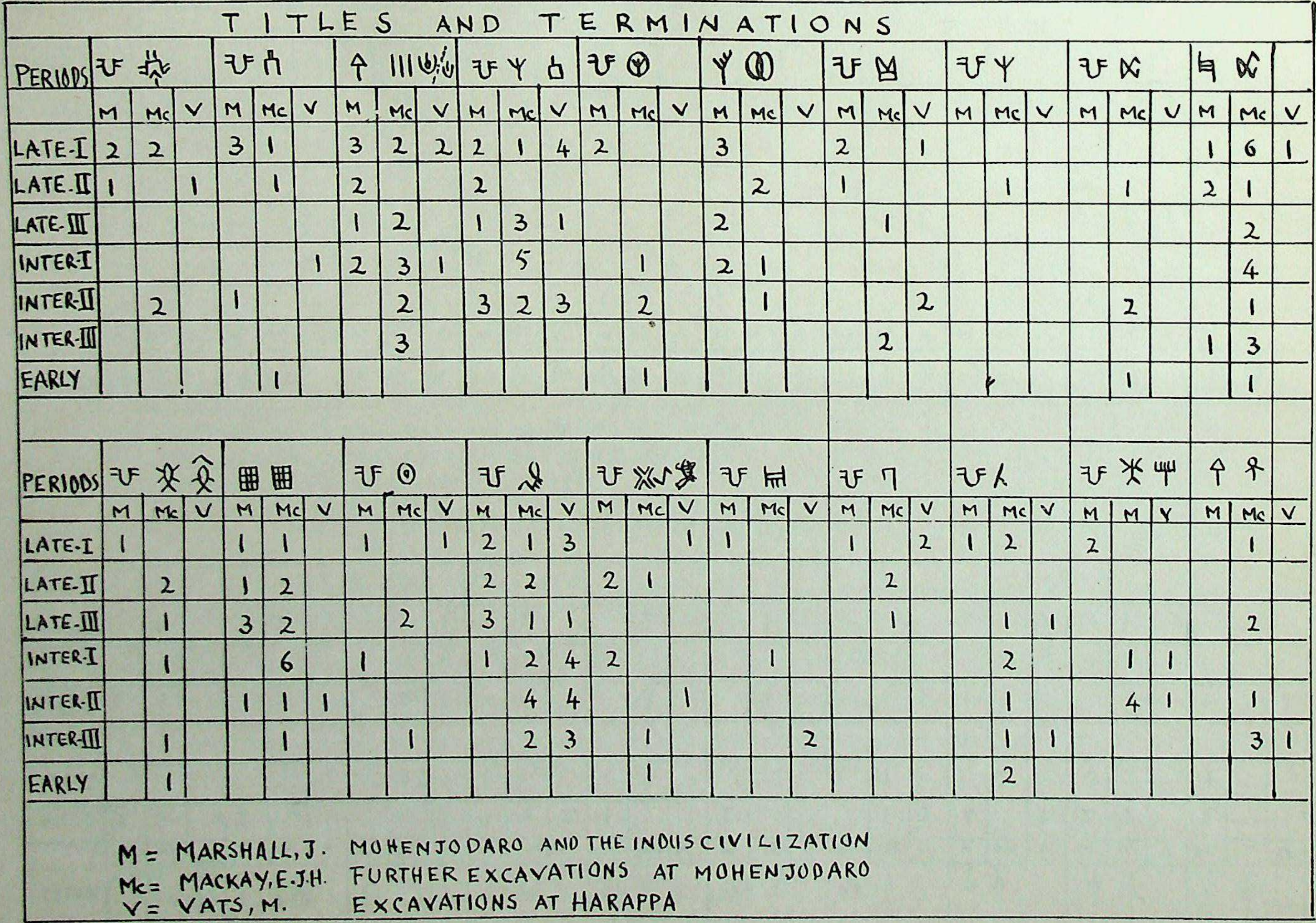

TITLES AND TERMINATIONS
REPRESENTED IN WEIGHTS & MEAS. ETC
NOT REPRESENTED IN WEIGHTS, ETC.
← READ
← READ
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
Fig.
COMMON NAMES
Fig. IIa
MOHENJODARO - HARAPPA - LOTHAL - KALIBANGAN - OTHER SITES -
1
2
3
4
5
6
ch
Ra
ch
Cha
Chan
Cha

Fig. 77 Titles and Terminations and Common Names



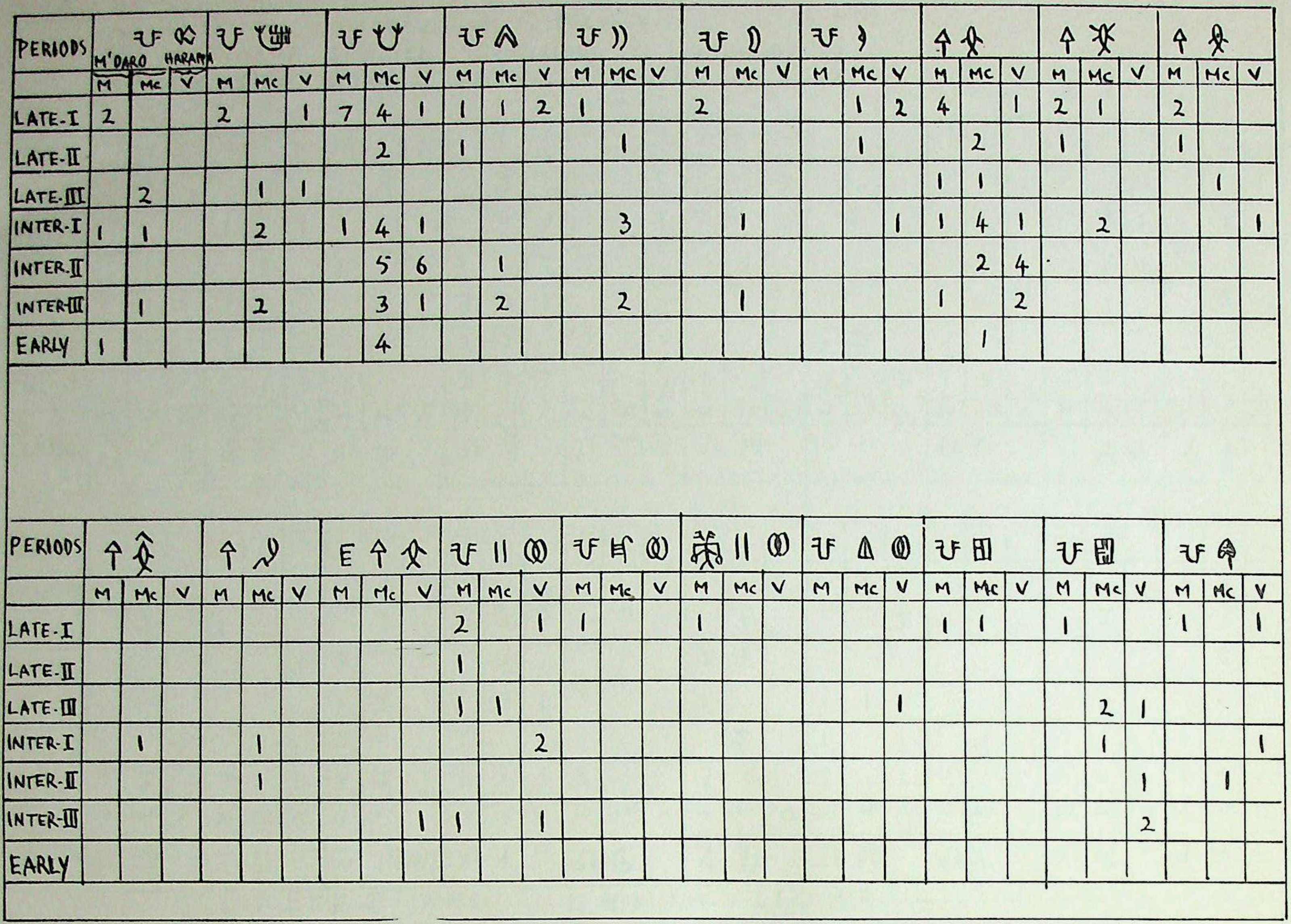
TITLES AND TERMINATIONS

PERIODS																														
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V
LATE-I	2	2		3	1		3	2	2	2	1	4	2			3			2		1							1	6	1
LATE-II	1		1		1		2			2							2		1				1			1		2	1	
LATE-III							1	2		1	3	1				2				1									2	
INTER-I						1	2	3	1		5			1		2	1												4	
INTER-II		2		1				2		3	2	3		2			1				2					2			1	
INTER-III								3												2								1	3	
EARLY					1									1												1			1	

PERIODS																														
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	M	Y	M	Mc	V
LATE-I	1			1	1		1		1	2	1	3			1	1			1		2	1	2		2				1	
LATE-II		2		1	2					2	2		2	1						2										
LATE-III		1		3	2			2		3	1	1								1			1	1					2	
INTER-I		1			6		1			1	2	4	2				1						2			1	1			
INTER-II				1	1	1					4	4			1								1			4	1		1	
INTER-III		1			1			1			2	3		1				2					1	1					3	1
EARLY		1												1									2							

M = MARSHALL, J. MOHENJODARO AND THE INDUS CIVILIZATION
Mc = MACKAY, E.J.H. FURTHER EXCAVATIONS AT MOHENJODARO
V = VATS, M. EXCAVATIONS AT HARAPPA

Fig. 78 Titles and Terminations



PERIODS																														
	M'DARO		HARAPPA																											
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V
LATE-I	2			2		1	7	4	1	1	1	2	1			2				1	2	4		1	2	1		2		
LATE-II								2		1				1						1			2		1			1		
LATE-III		2			1	1																1	1						1	
INTER-I	1	1			2		1	4	1					3			1				1	1	4	1		2				1
INTER-II								5	6		1												2	4						
INTER-III		1			2			3	1		2			2			1					1		2						
EARLY	1							4															1							

PERIODS																														
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V
LATE-I										2		1	1			1						1	1		1			1		1
LATE-II										1																				
LATE-III										1	1										1					2	1			
INTER-I		1			1							2														1				1
INTER-II					1																						1		1	
INTER-III									1	1		1															2			
EARLY																														

Fig. 79 Titles and Terminations (Contd.)

PERIODS	TIGER & MAN ON TREE			TIGER THREE FACES			SACRIFICE 6 DANCERS & 1 DEVOTEE			TOTEMS.4 IN PROCESSION			UNICORN OVER ELEPHANT			MAN FIGHTING WITH 2 TIGERS			GOD ĪŚĀNA			GOD MAKHANĀSANA			GOAT			UNICORN OVERSHADOWED WITH CLOUD-LIKE OBJECT		
	M'DARO		HARAPPA																											
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V
LATE-I	1			1																											
LATE-II																	1														
LATE-III							1			1										1											
INTER-I								HUMAN SACRIFICE	1				1										1								
INTER-II		1																					1								
INTER-III																										1			1	
EARLY																										1				

M= MARSHALL-J. MOHENJODARO AND THE INDUS CIVILIZATION
Mc= MACKAY, E.J.H. FURTHER EXCAVATIONS AT MOHENJODARO
V = VATS, M. EXCAVATIONS AT HARAPPA

PERIODS	UNICORN			BISON			ZEBUBULL			RHINOCEROS			BUFFALO			ELEPHANT			TIGER			CROCODILE			SACRED TREE			SOMA PLANT		
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V
LATE-I	70	26	11	6	1		5			4		1	1		1		2		4	1	1									1
LATE-II	28	37	12	1	3		1	3			2						2							1						
LATE III	10	72	21	1	7		2	3			1			2			4	1		2				1						
INTER-I	21	59	11		10	1	1	8			1	1	1	1		2	1			1							1			1
INTER-II	-	40	4		4	2		2									1	1		1				2						
INTER-III	4	56	2		7			2	1					1			3			1				3		1				
EARLY		24			3			1			3			1																

Fig. 80 Totems and Gods

PERIODS	COMPOSITE ANIMAL WITH HEADS OF BISON, UNICORN AND ELEPHANT			COMPOSITE ANIMAL WITH HEADS OF ZEBU BULL AND ELEPHANT			COMPOSITE ANIMAL WITH HEADS OF ZEBU BULL, UNICORN AND BISON			COMPOSITE ANIMAL WITH HEADS OF UNICORN AND GOAT			COMPOSITE ANIMAL WITH HEADS OF TIGER AND CROCODILE			COMPOSITE ANIMAL WITH HEADS OF ZEBU BULL AND ELEPHANT			COMPOSITE ANIMAL WITH HEADS OF UNICORN AND ELEPHANT			COMPOSITE ANIMAL WITH HUMAN HEAD AND BODY OF A, TIGER (SPHINX)			WITHOUT TUTEM			MISCELLANEOU-S		
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V
LATE-I	1							1			1			1											31	11	11			
LATE. II																									3	14	7			
LATE. III				2													1								5	20	18	BATTLE STANDARD →		2
INTER-I																				1			1		9	28	9			
INTER. II					1																					14	33	BOAT		1
INTER. III																	1								2	14	25	FRAGMENT OF COMPOSITE ANIMAL	1	
EARLY																										45		TWO BULLS	FIGHTING 1	

Fig. 81 Totems and Gods (Contd.)

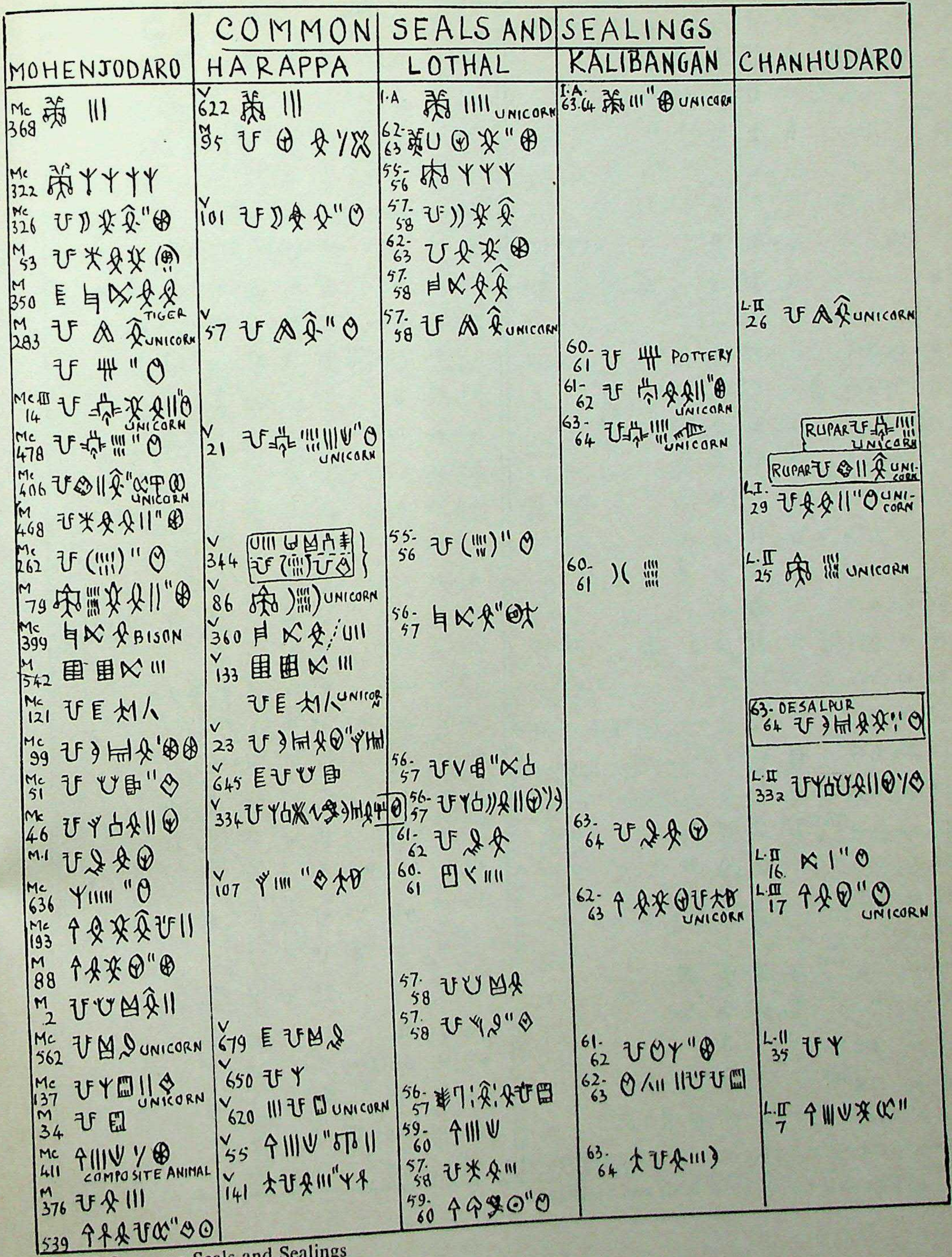

COMMON SEALS AND SEALINGS
MOHENJODARO
HARAPPA
LOTHAL
KALIBANGAN
CHANHUDARO
Mc 368
Mc 322
Mc 326
M 53
M 350
M 283
TIGER
UNICORN
Mc III 14
Mc 478
Mc 406
M 468
Mc 262
M 79
Mc 399
BISON
M 542
Mc 121
Mc 99
Mc 51
Mc 46
M.I
Mc 636
Mc 193
M 88
M 2
Mc 562
Mc 137
M 34
Mc 411
COMPOSITE ANIMAL
M 376
539
V 622
M 95
V 101
V 57
V 21
V 344
V 86
V 360
V 133
UNICORN
V 23
V 645
V 334
V 107
V 679
V 650
V 620
V 55
V 141
I.A
62-63
55-56
57-58
62-63
57-58
57-58
55-56
56-57
56-57
56-57
61-62
60-61
57-58
57-58
56-57
59-60
57-58
59-60
I.A. 63.64
60-61
POTTERY
61-62
63-64
60-61
63-64
62-63
61-62
62-63
63-64
L.II 26
RUPAR
RUPAR
L.I. 29
L.II 25
63-64 DESALPUR
L.II 332
L.II 16
L.III 17
L.II 35
L.II 7

Fig. 82 Common Seals and Sealings

PERIODS	COMPOSITE ANIMAL WITH HEADS OF BISON, UNICORN AND ELEPHANT			COMPOSITE ANIMAL WITH HEADS OF ZEBU BULL AND ELEPHANT			COMPOSITE ANIMAL WITH HEADS OF ZEBU BULL, UNICORN AND BISON			COMPOSITE ANIMAL WITH HEADS OF UNICORN AND GOAT			COMPOSITE ANIMAL WITH HEADS OF TIGER AND CROCODILE			COMPOSITE ANIMAL WITH HEADS OF ZEBU BULL AND ELEPHANT			COMPOSITE ANIMAL WITH HEADS OF UNICORN AND ELEPHANT			COMPOSITE ANIMAL WITH HUMAN HEAD AND BODY OF A TIGER (SPHINX)			WITHOUT TOTEM			MISCELLANEOUS		
	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V	M	Mc	V
LATE-I	1							1			1			1											31	11	11			
LATE-II																									3	14	7			
LATE-III				2													1								5	20	18	BATTLE STANDARD →		2
INTER-I																				1			1		9	28	9			
INTER-II					1																					14	33	BOAT		1
INTER-III																	1								2	14	25	FRAGMENT OF COMPOSITE ANIMAL	1	
EARLY																										45		TWIN BULLS	FIGHTING 1	

Fig. 81 Totems and Gods (Contd.)

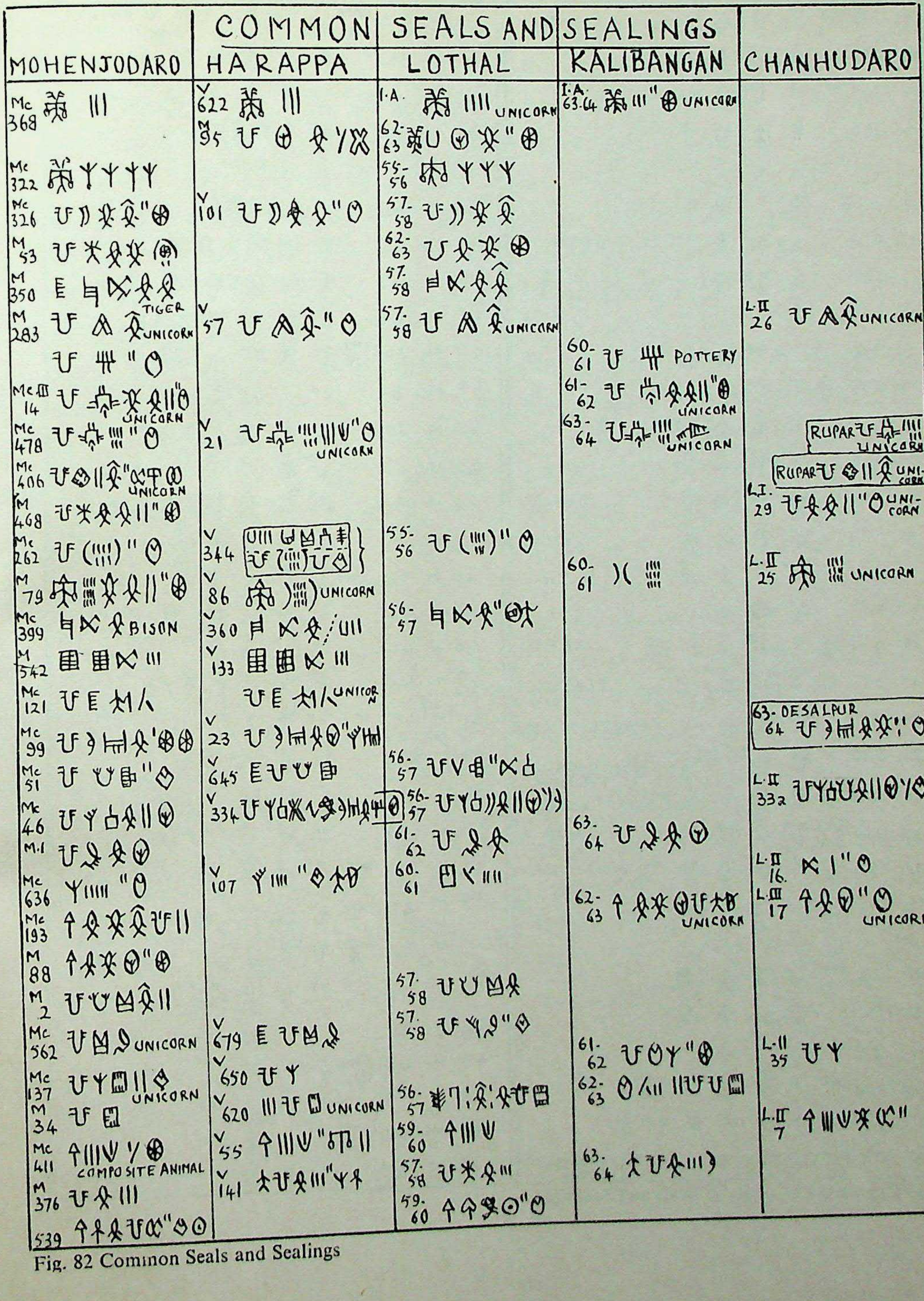
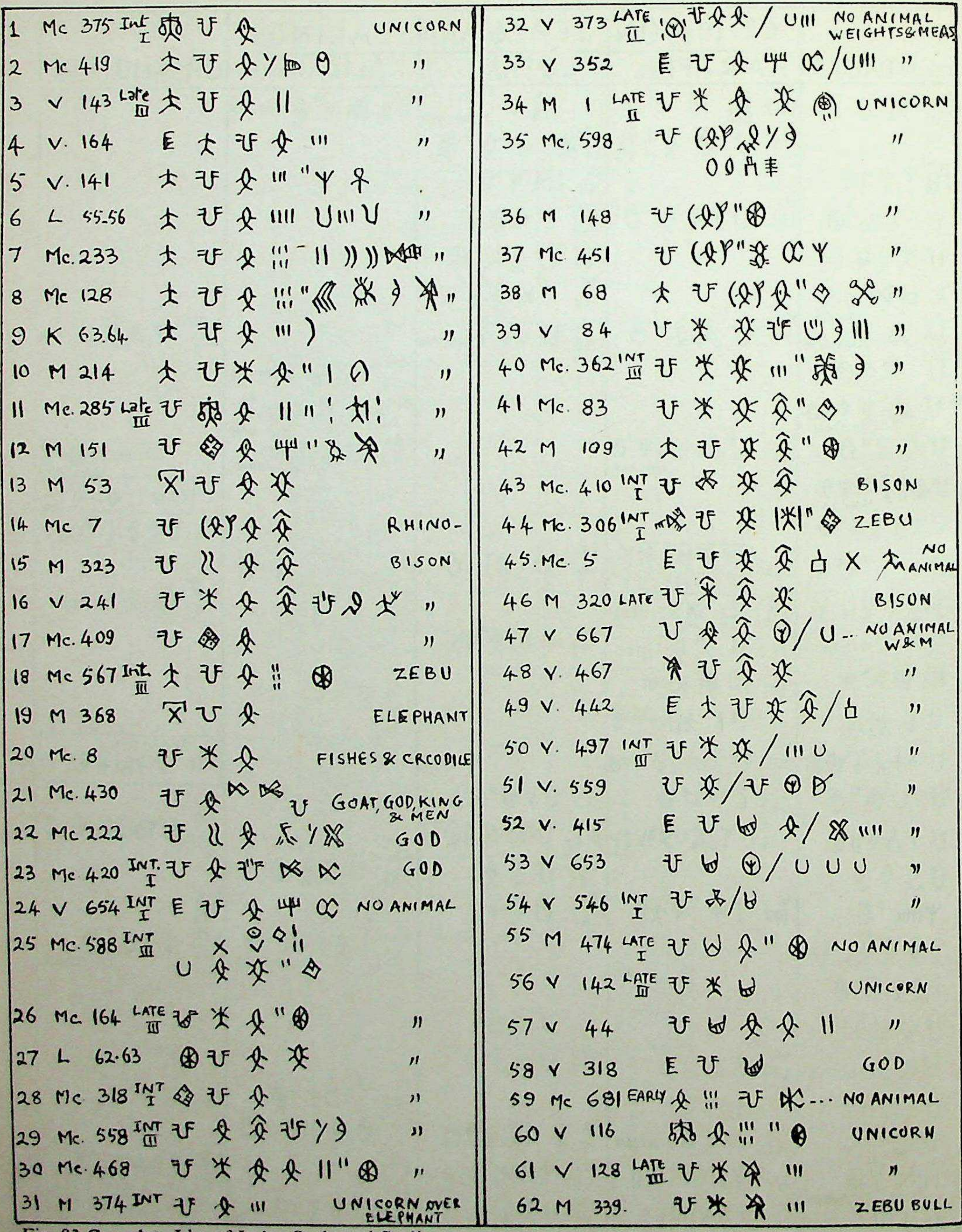
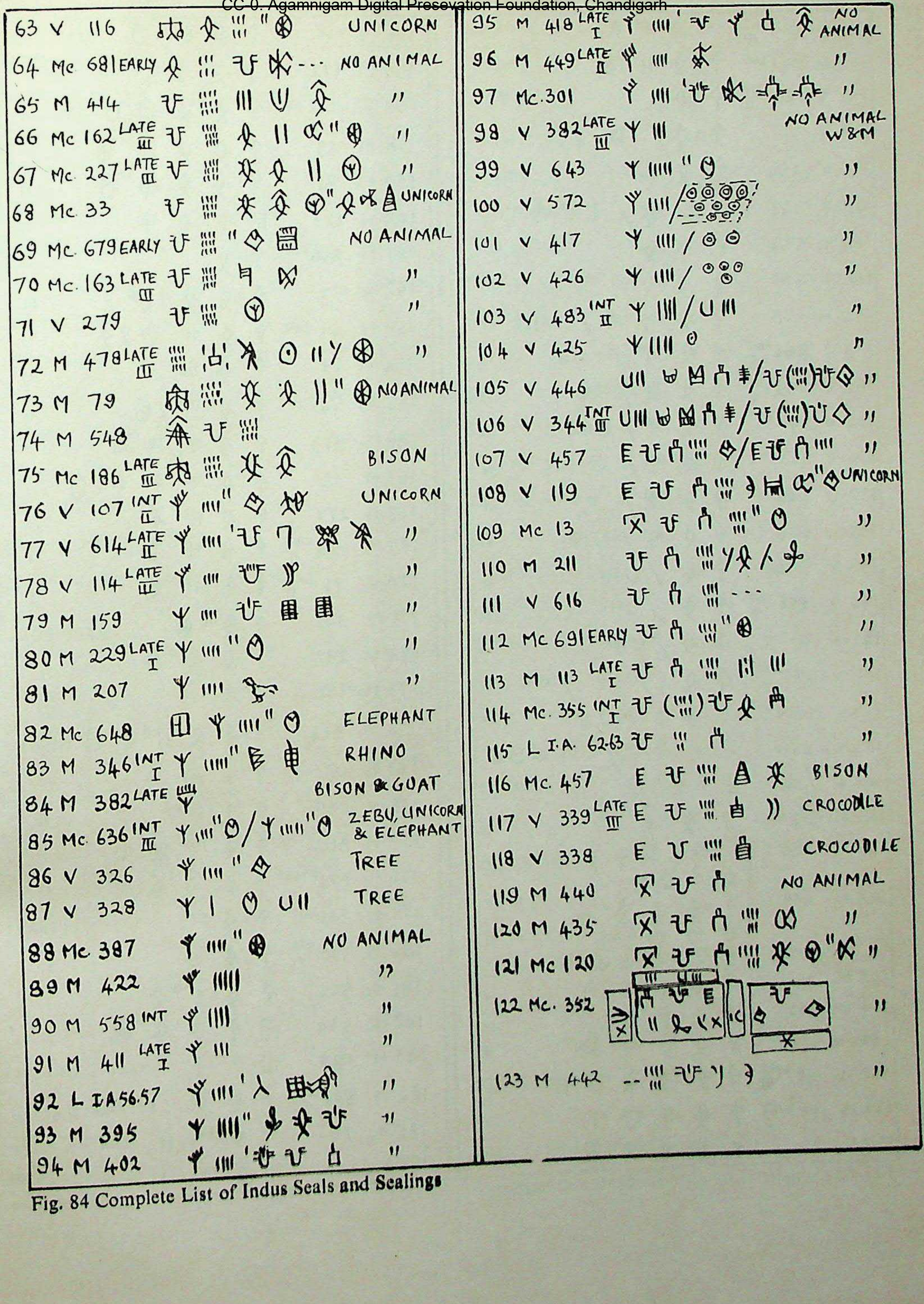

COMMON SEALS AND SEALINGS
MOHENJODARO
HARAPPA
LOTHAL
KALIBANGAN
CHANHUDARO
Mc 368
Mc 322
Mc 326
M 53
M 350
M 283
TIGER
UNICORN
Mc III 14
Mc 478
Mc 406
M 468
Mc 262
M 79
Mc 399
BISON
M 542
Mc 121
Mc 99
Mc 51
Mc 46
M.I
Mc 636
Mc 193
M 88
M 2
Mc 562
Mc 137
M 34
Mc 411
COMPOSITE ANIMAL
M 376
539
V 622
M 95
V 101
V 57
V 21
V 344
V 86
V 360
V 133
V 23
V 645
V 334
V 107
V 679
V 650
V 620
V 55
V 141
I.A.
62-63
55-56
57-58
62-63
57-58
57-58
55-56
56-57
56-57
56-57
61-62
60-61
57-58
57-58
56-57
59-60
57-58
59-60
I.A. 63-64
60-61
POTTERY
61-62
63-64
60-61
63-64
62-63
61-62
62-63
63-64
L.II 26
RUPAR
RUPAR
L.I. 29
L.II 25
63-64 DESALPUR
L.II 33a
L.II 16
L.III 17
L.II 35
L.II 7
UNICORN

Fig. 82 Common Seals and Sealings



1	Mc	375	Int I	UNICORN
2	Mc	419		"
3	V	143	Late III	"
4	V.	164		"
5	V.	141		
6	L	55.56		"
7	Mc.	233		"
8	Mc	128		"
9	K	63.64		"
10	M	214		"
11	Mc.	285	Late III	"
12	M	151		"
13	M	53		
14	Mc	7		RHINO-
15	M	323		BISON
16	V	241		"
17	Mc.	409		"
18	Mc	567	Int. III	ZEBU
19	M	368		ELEPHANT
20	Mc.	8		FISHES & CRCODILE
21	Mc.	430		GOAT, GOD, KING & MEN
22	Mc	222		GOD
23	Mc	420	INT. I	GOD
24	V	654	INT I	NO ANIMAL
25	Mc.	588	INT III	
26	Mc.	164	LATE III	"
27	L	62.63		"
28	Mc	318	INT I	"
29	Mc.	558	INT III	"
30	Mc.	468		"
31	M	374	INT	UNICORN OVER ELEPHANT
32	V	373	LATE II	NO ANIMAL WEIGHTS & MEAS
33	V	352		"
34	M	1	LATE II	UNICORN
35	Mc.	598		"
36	M	148		"
37	Mc	451		"
38	M	68		"
39	V	84		"
40	Mc.	362	INT III	"
41	Mc.	83		"
42	M	109		"
43	Mc.	410	INT I	BISON
44	Mc.	306	INT I	ZEBU
45.	Mc.	5		NO ANIMAL
46	M	320	LATE	BISON
47	V	667		NO ANIMAL W&M
48	V.	467		"
49	V.	442		"
50	V.	497	INT III	"
51	V.	559		"
52	V.	415		"
53	V	653		"
54	V	546	INT I	"
55	M	474	LATE I	NO ANIMAL
56	V	142	LATE III	UNICORN
57	V	44		"
58	V	318		GOD
59	Mc	681	EARLY	NO ANIMAL
60	V	116		UNICORN
61	V	128	LATE III	"
62	M	339.		ZEBU BULL

Fig. 83 Complete List of Indus Seals and Sealings



63	V	116		UNICORN
64	Mc	681	EARLY	NO ANIMAL
65	M	414		,,
66	Mc	162	LATE III	,,
67	Mc.	227	LATE III	,,
68	Mc.	33		UNICORN
69	Mc.	679	EARLY	NO ANIMAL
70	Mc.	163	LATE III	,,
71	V	279		,,
72	M	478	LATE III	,,
73	M	79		NO ANIMAL
74	M	548		
75	Mc	186	LATE III	BISON
76	V	107	INT II	UNICORN
77	V	614	LATE II	,,
78	V	114	LATE III	,,
79	M	159		,,
80	M	229	LATE I	,,
81	M	207		,,
82	Mc	648		ELEPHANT
83	M	346	INT I	RHINO
84	M	382	LATE	BISON & GUAT
85	Mc.	636	INT III	ZEBU, UNICORN & ELEPHANT
86	V	326		TREE
87	V	328		TREE
88	Mc.	387		NO ANIMAL
89	M	422		,,
90	M	558	INT	,,
91	M	411	LATE I	,,
92	L	IA 56.57		,,
93	M	395		,,
94	M	402		,,
95	M	418	LATE I	NO ANIMAL
96	M	449	LATE II	,,
97	Mc.	301		,,
98	V	382	LATE III	NO ANIMAL W&M
99	V	643		,,
100	V	572		,,
101	V	417		,,
102	V	426		,,
103	V	483	INT II	,,
104	V	425		,,
105	V	446		,,
106	V	344	INT III	,,
107	V	457		,,
108	V	119		UNICORN
109	Mc	13		,,
110	M	211		,,
111	V	616		,,
112	Mc	691	EARLY	,,
113	M	113	LATE I	,,
114	Mc.	355	INT I	,,
115	L	I.A. 62.63		,,
116	Mc.	457		BISON
117	V	339	LATE III	CROCODILE
118	V	338		CROCODILE
119	M	440		NO ANIMAL
120	M	435		,,
121	Mc	120		,,
122	Mc.	352		,,
123	M	442		,,

Fig. 84 Complete List of Indus Seals and Sealings

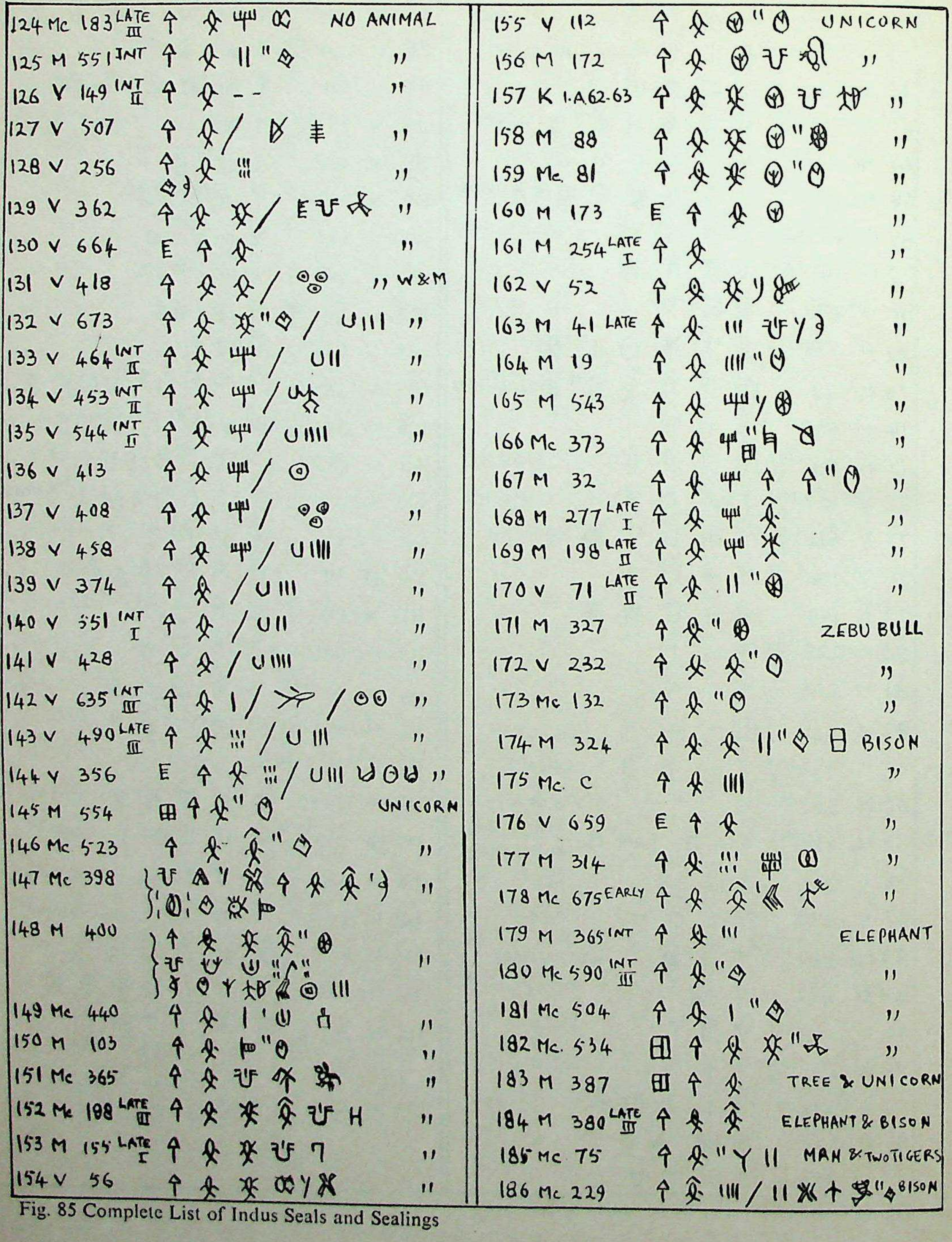
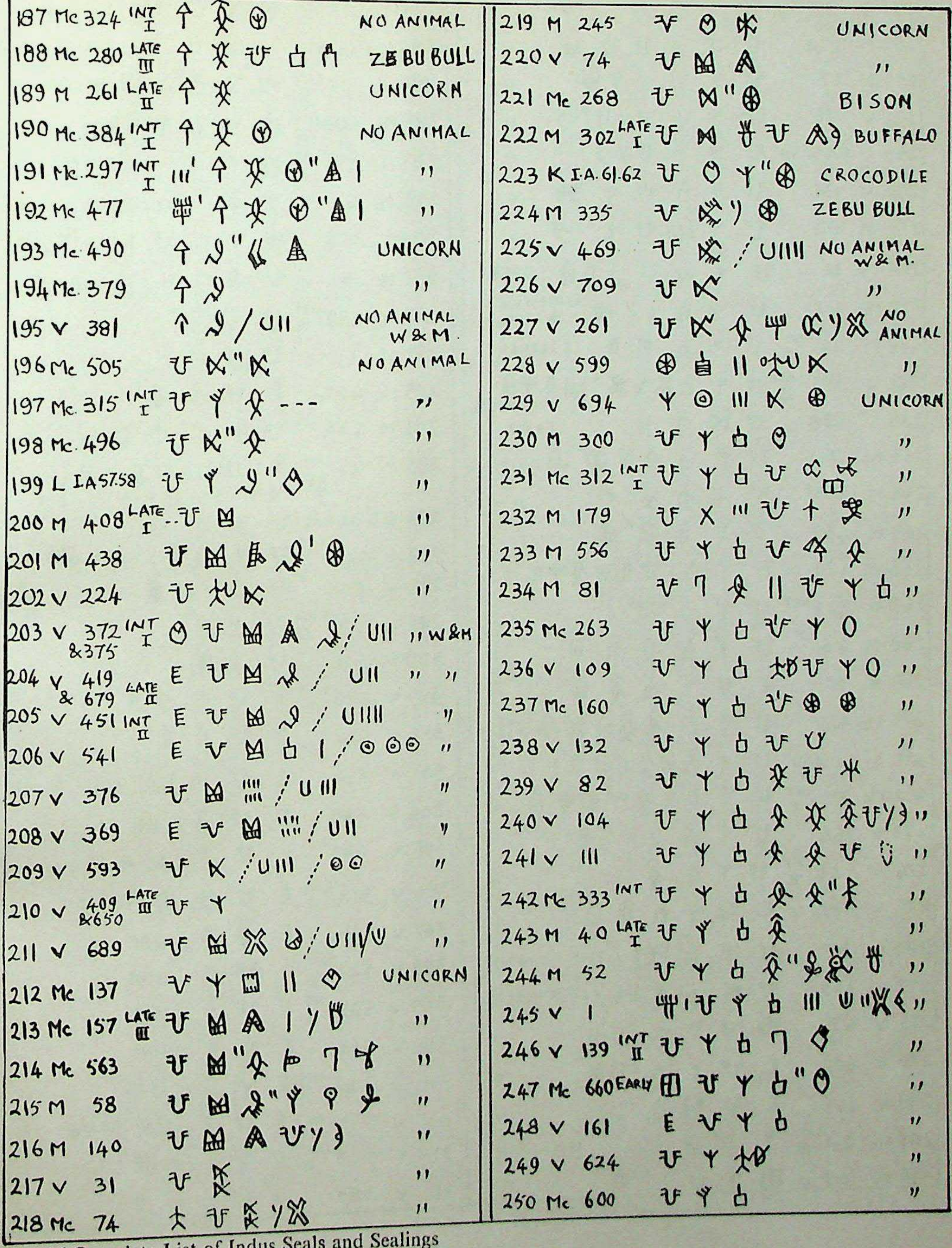
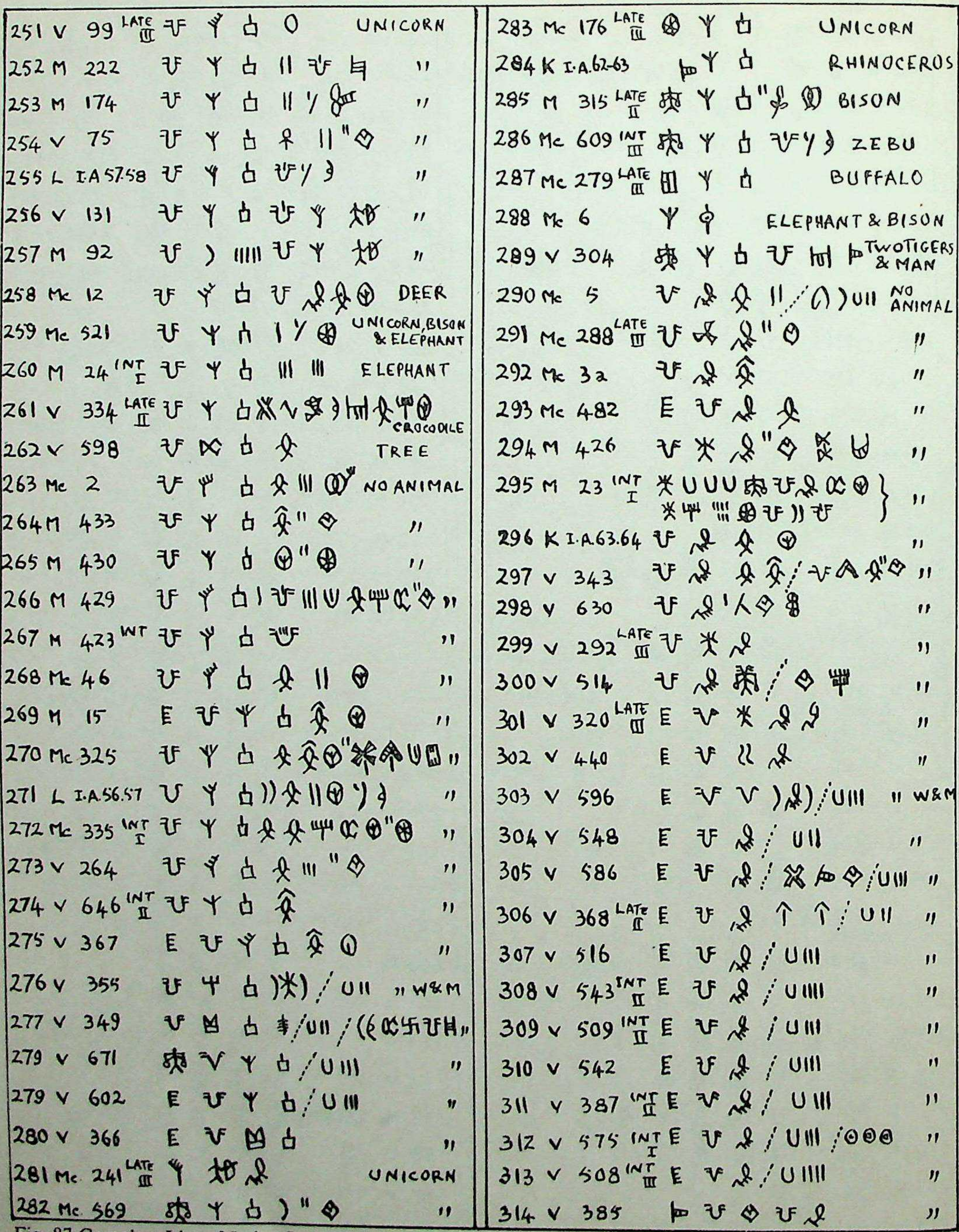

124 Mc 183 LATE III NO ANIMAL
125 M 551 INT ,,
126 V 149 INT II ,,
127 V 507 ,,
128 V 256 ,,
129 V 362 ,,
130 V 664 ,,
131 V 418 ,, W&M
132 V 673 ,,
133 V 464 INT II ,,
134 V 453 INT II ,,
135 V 544 INT II ,,
136 V 413 ,,
137 V 408 ,,
138 V 458 ,,
139 V 374 ,,
140 V 551 INT I ,,
141 V 428 ,,
142 V 635 INT III ,,
143 V 490 LATE III ,,
144 V 356 ,,
145 M 554 UNICORN
146 Mc 523 ,,
147 Mc 398 ,,
148 M 400 ,,
149 Mc 440 ,,
150 M 103 ,,
151 Mc 365 ,,
152 Mc 188 LATE III ,,
153 M 155 LATE I ,,
154 V 56 ,,
155 V 112 UNICORN
156 M 172 ,,
157 K I.A.62-63 ,,
158 M 88 ,,
159 Mc 81 ,,
160 M 173 ,,
161 M 254 LATE I ,,
162 V 52 ,,
163 M 41 LATE ,,
164 M 19 ,,
165 M 543 ,,
166 Mc 373 ,,
167 M 32 ,,
168 M 277 LATE I ,,
169 M 198 LATE II ,,
170 V 71 LATE II ,,
171 M 327 ZEBU BULL
172 V 232 ,,
173 Mc 132 ,,
174 M 324 BISON
175 Mc C ,,
176 V 659 ,,
177 M 314 ,,
178 Mc 675 EARLY ,,
179 M 365 INT ELEPHANT
180 Mc 590 INT III ,,
181 Mc 504 ,,
182 Mc 534 ,,
183 M 387 TREE & UNICORN
184 M 380 LATE III ELEPHANT & BISON
185 Mc 75 MAN & TWO TIGERS
186 Mc 229 BISON

Fig. 85 Complete List of Indus Seals and Sealings



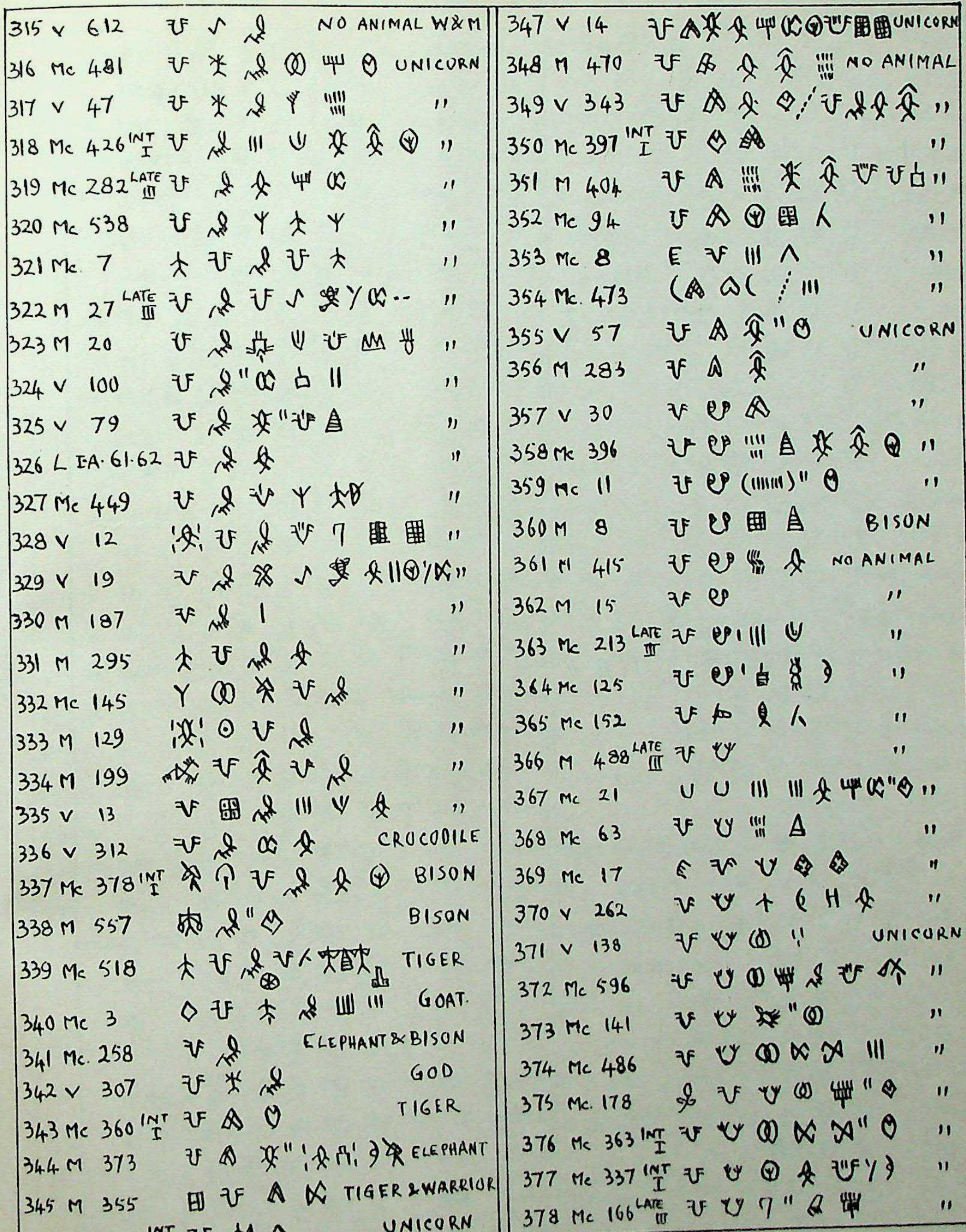
187	Mc	324	INT I	NO ANIMAL
188	Mc	280	LATE III	ZEBU BULL
189	M	261	LATE II	UNICORN
190	Mc	384	INT I	NO ANIMAL
191	Mc	297	INT I	,,
192	Mc	477		,,
193	Mc	490		UNICORN
194	Mc	379		,,
195	V	381		NO ANIMAL W & M.
196	Mc	505		NO ANIMAL
197	Mc	315	INT I	,,
198	Mc	496		,,
199	L	IA 57.58		,,
200	M	408	LATE I	,,
201	M	438		,,
202	V	224		,,
203	V	372 & 375	INT I	,, W&M
204	V	419 & 679	LATE II	,, ,,
205	V	451	INT II	,,
206	V	541		,,
207	V	376		,,
208	V	369		,,
209	V	593		,,
210	V	409 & 650	LATE III	,,
211	V	689		,,
212	Mc	137		UNICORN
213	Mc	157	LATE III	,,
214	Mc	563		,,
215	M	58		,,
216	M	140		,,
217	V	31		,,
218	Mc	74		,,
219	M	245		UNICORN
220	V	74		,,
221	Mc	268		BISON
222	M	302	LATE I	BUFFALO
223	K	I.A. 61.62		CROCODILE
224	M	335		ZEBU BULL
225	V	469		NO ANIMAL W & M.
226	V	709		,,
227	V	261		NO ANIMAL
228	V	599		,,
229	V	694		UNICORN
230	M	300		,,
231	Mc	312	INT I	,,
232	M	179		,,
233	M	556		,,
234	M	81		,,
235	Mc	263		,,
236	V	109		,,
237	Mc	160		,,
238	V	132		,,
239	V	82		,,
240	V	104		,,
241	V	111		,,
242	Mc	333	INT	,,
243	M	40	LATE I	,,
244	M	52		,,
245	V	1		,,
246	V	139	INT II	,,
247	Mc	660	EARLY	,,
248	V	161		,,
249	V	624		,,
250	Mc	600		,,

Fig. 86 Complete List of Indus Seals and Sealings



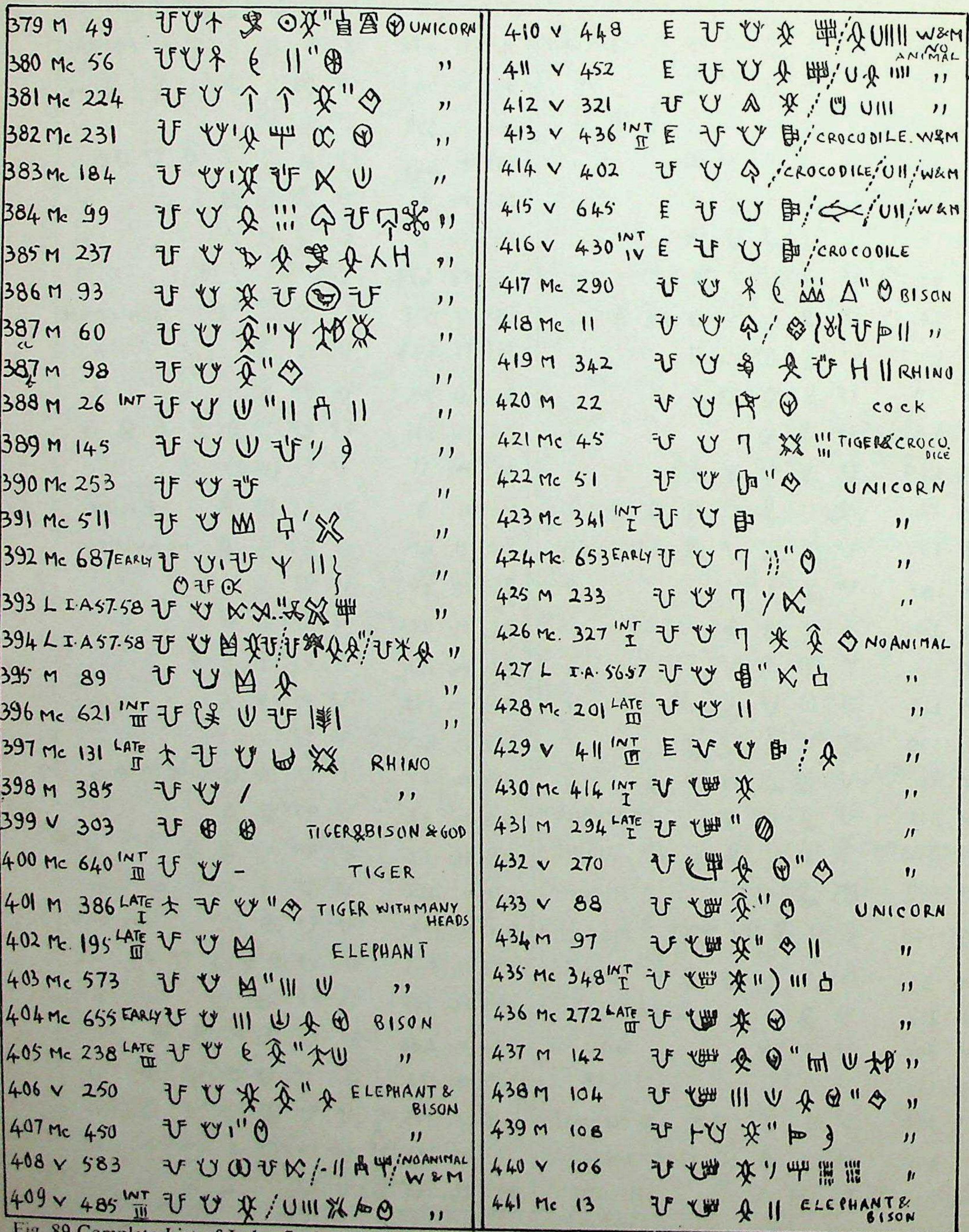
251	V	99	LATE III	UNICORN
252	M	222		"
253	M	174		"
254	V	75		"
255	L	I.A 57.58		"
256	V	131		"
257	M	92		"
258	Mc	12		DEER
259	Mc	521		UNICORN, BISON & ELEPHANT
260	M	24	INT I	ELEPHANT
261	V	334	LATE II	CROCODILE
262	V	598		TREE
263	Mc	2		NO ANIMAL
264	M	433		"
265	M	430		"
266	M	429		"
267	M	423	INT	"
268	Mc	46		"
269	M	15		"
270	Mc	325		"
271	L	I.A.56.57		"
272	Mc	335	INT I	"
273	V	264		"
274	V	646	INT II	"
275	V	367		"
276	V	355		" W&M
277	V	349		"
279	V	671		"
279	V	602		"
280	V	366		"
281	Mc	241	LATE III	UNICORN
282	Mc	569		"
283	Mc	176	LATE III	UNICORN
284	K	I.A.62-63		RHINOCEROS
285	M	315	LATE II	BISON
286	Mc	609	INT III	ZEBU
287	Mc	279	LATE III	BUFFALO
288	Mc	6		ELEPHANT & BISON
289	V	304		TWO TIGERS & MAN
290	Mc	5		NO ANIMAL
291	Mc	288	LATE III	"
292	Mc	3a		"
293	Mc	482		"
294	M	426		"
295	M	23	INT I	"
296	K	I.A.63.64		"
297	V	343		"
298	V	630		"
299	V	292	LATE III	"
300	V	514		"
301	V	320	LATE III	"
302	V	440		"
303	V	596		" W&M
304	V	548		"
305	V	586		"
306	V	368	LATE II	"
307	V	516		"
308	V	543	INT II	"
309	V	509	INT II	"
310	V	542		"
311	V	387	INT II	"
312	V	575	INT I	"
313	V	508	INT III	"
314	V	385		"

Fig. 87 Complete List of Indus Seals and Sealings



315	V	612		NO ANIMAL W&M
316	Mc	481		UNICORN
317	V	47		"
318	Mc	426	INT I	"
319	Mc	282	LATE III	"
320	Mc	538		"
321	Mc.	7		"
322	M	27	LATE III	"
323	M	20		"
324	V	100		"
325	V	79		"
326	L	EA·61·62		"
327	Mc	449		"
328	V	12		"
329	V	19		"
330	M	187		"
331	M	295		"
332	Mc	145		"
333	M	129		"
334	M	199		"
335	V	13		"
336	V	312		CROCODILE
337	Mk	378	INT I	BISON
338	M	557		BISON
339	Mc	518		TIGER
340	Mc	3		GOAT.
341	Mc.	258		ELEPHANT & BISON
342	V	307		GOD
343	Mc	360	INT I	TIGER
344	M	373		ELEPHANT
345	M	355		TIGER & WARRIOR
346	Mc.	557	INT III	UNICORN
347	V	14		UNICORN
348	M	470		NO ANIMAL
349	V	343		"
350	Mc	397	INT I	"
351	M	404		"
352	Mc	94		"
353	Mc	8		"
354	Mc.	473		"
355	V	57		UNICORN
356	M	283		"
357	V	30		"
358	Mc	396		"
359	Mc	11		"
360	M	8		BISON
361	M	415		NO ANIMAL
362	M	15		"
363	Mc	213	LATE III	"
364	Mc	125		"
365	Mc	152		"
366	M	488	LATE III	"
367	Mc	21		"
368	Mc	63		"
369	Mc	17		"
370	V	262		"
371	V	138		UNICORN
372	Mc	596		"
373	Mc	141		"
374	Mc	486		"
375	Mc.	178		"
376	Mc	363	INT I	"
377	Mc	337	INT I	"
378	Mc	166	LATE III	"

Fig. 88 Complete List of Indus Seals and Sealings



379	M	49		UNICORN
380	Mc	56		,,
381	Mc	224		,,
382	Mc	231		,,
383	Mc	184		,,
384	Mc	99		,,
385	M	237		,,
386	M	93		,,
387 CL	M	60		,,
387 C	M	98		,,
388	M	26	INT	,,
389	M	145		,,
390	Mc	253		,,
391	Mc	511		,,
392	Mc	687	EARLY	,,
393	L	I.A.57-58		,,
394	L	I.A.57-58		,,
395	M	89		,,
396	Mc	621	INT III	,,
397	Mc	131	LATE II	RHINO
398	M	385		,,
399	V	303		TIGER&BISON &GOD
400	Mc	640	INT III	TIGER
401	M	386	LATE I	TIGER WITH MANY HEADS
402	Mc.	195	LATE III	ELEPHANT
403	Mc	573		,,
404	Mc	655	EARLY	BISON
405	Mc	238	LATE III	,,
406	V	250		ELEPHANT & BISON
407	Mc	450		,,
408	V	583		NO ANIMAL W&M
409	V	485	INT III	,,
410	V	448		W&M NO ANIMAL
411	V	452		,,
412	V	321		,,
413	V	436	INT II	CROCODILE. W&M
414	V	402		CROCODILE W&M
415	V	645		W&M
416	V	430	INT IV	CROCODILE
417	Mc	290		BISON
418	Mc	11		,,
419	M	342		RHINO
420	M	22		COCK
421	Mc	45		TIGER& CROCODICE
422	Mc	51		UNICORN
423	Mc	341	INT I	,,
424	Mc.	653	EARLY	,,
425	M	233		,,
426	Mc.	327	INT I	NO ANIMAL
427	L	I.A. 56-57		,,
428	Mc	201	LATE III	,,
429	V	411	INT III	,,
430	Mc	414	INT I	,,
431	M	294	LATE I	,,
432	V	270		,,
433	V	88		UNICORN
434	M	97		,,
435	Mc	348	INT I	,,
436	Mc	272	LATE III	,,
437	M	142		,,
438	M	104		,,
439	M	108		,,
440	V	106		,,
441	Mc	13		ELEPHANT & BISON

Fig. 89 Complete List of Indus Seals and Sealings

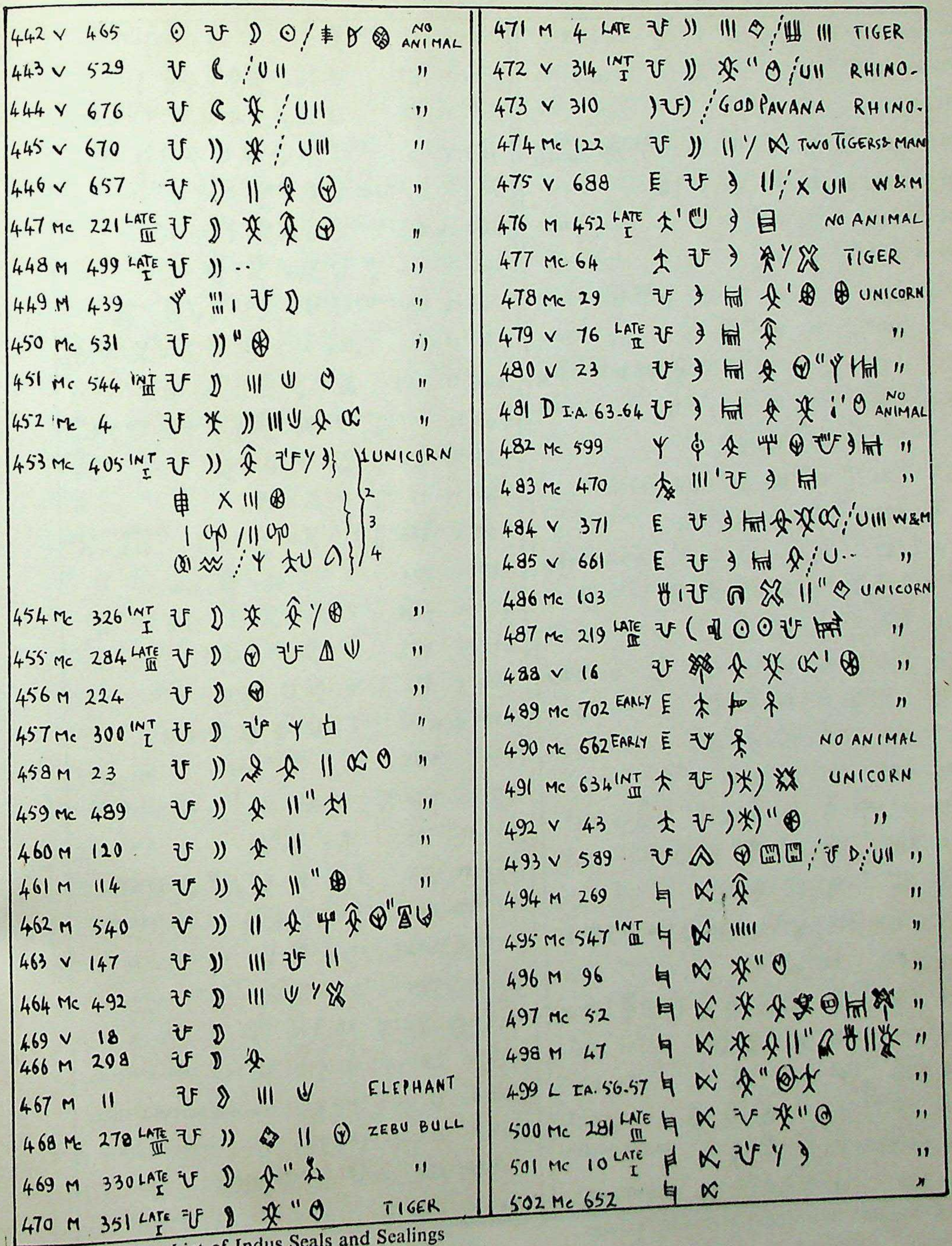

442 V 465 NO ANIMAL
443 V 529 ,,
444 V 676 ,,
445 V 670 ,,
446 V 657 ,,
447 Mc 221 LATE III ,,
448 M 499 LATE I ,,
449 M 439 ,,
450 Mc 531 ,,
451 Mc 544 INT III ,,
452 Mc 4 ,,
453 Mc 405 INT I 1 UNICORN 2 3 4
454 Mc 326 INT I ,,
455 Mc 284 LATE III ,,
456 M 224 ,,
457 Mc 300 INT I ,,
458 M 23 ,,
459 Mc 489 ,,
460 M 120 ,,
461 M 114 ,,
462 M 540
463 V 147
464 Mc 492
469 V 18
466 M 208
467 M 11 ELEPHANT
468 Mc 278 LATE III ZEBU BULL
469 M 330 LATE I ,,
470 M 351 LATE I TIGER
471 M 4 LATE TIGER
472 V 314 INT I RHINO.
473 V 310 GOD PAVANA RHINO.
474 Mc 122 TWO TIGERS & MAN
475 V 688 W&M
476 M 452 LATE I NO ANIMAL
477 Mc. 64 TIGER
478 Mc 29 UNICORN
479 V 76 LATE II ,,
480 V 23 ,,
481 D I.A. 63-64 NO ANIMAL
482 Mc 599 ,,
483 Mc 470 ,,
484 V 371 W&M
485 V 661 ,,
486 Mc 103 UNICORN
487 Mc 219 LATE III ,,
488 V 16 ,,
489 Mc 702 EARLY ,,
490 Mc 662 EARLY NO ANIMAL
491 Mc 634 INT III UNICORN
492 V 43 ,,
493 V 589 ,,
494 M 269 ,,
495 Mc 547 INT III ,,
496 M 96 ,,
497 Mc 52 ,,
498 M 47 ,,
499 L I.A. 56-57 ,,
500 Mc 281 LATE III ,,
501 Mc 10 LATE I ,,
502 Mc 652 ,,

Fig. 90 Complete List of Indus Seals and Sealings

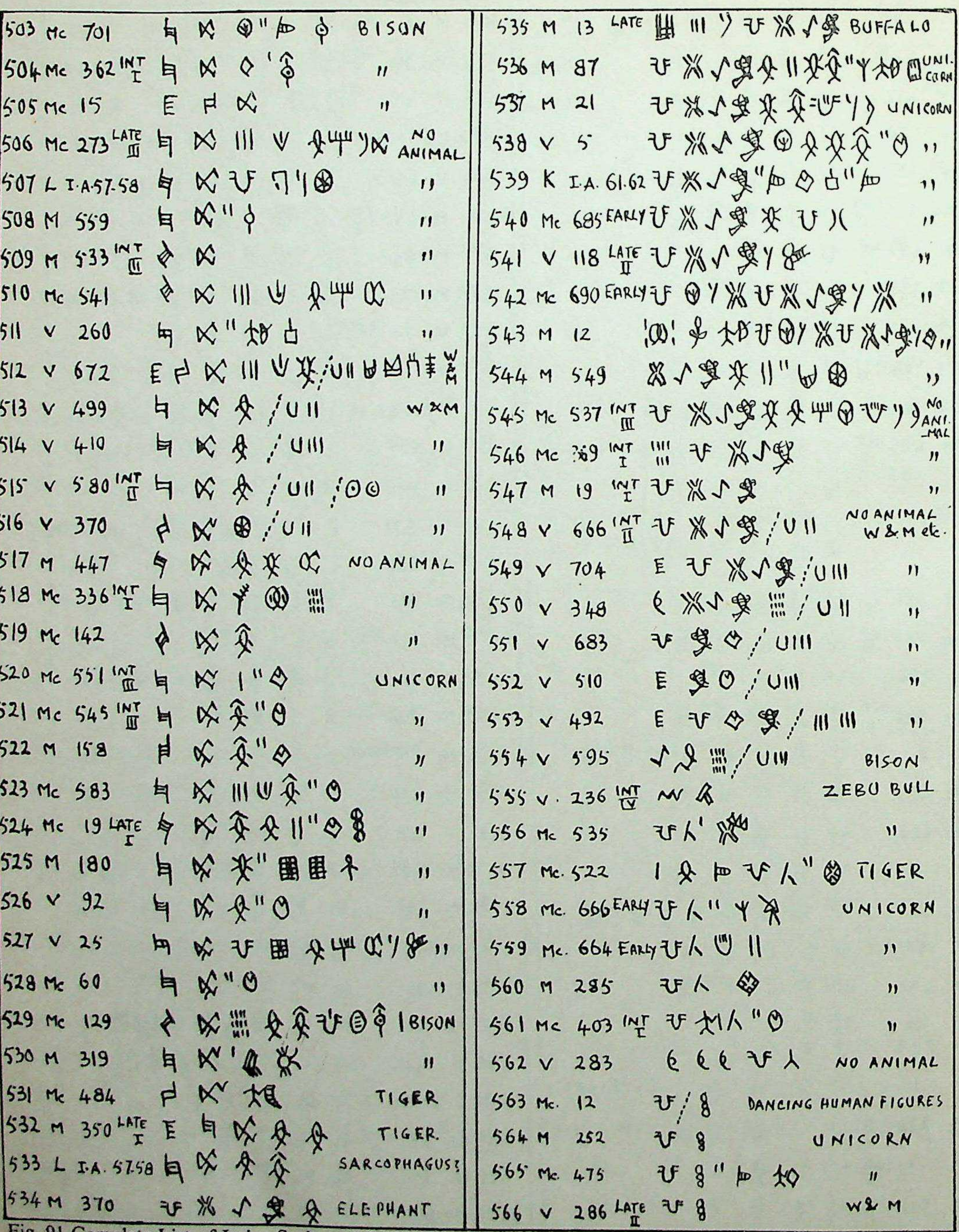
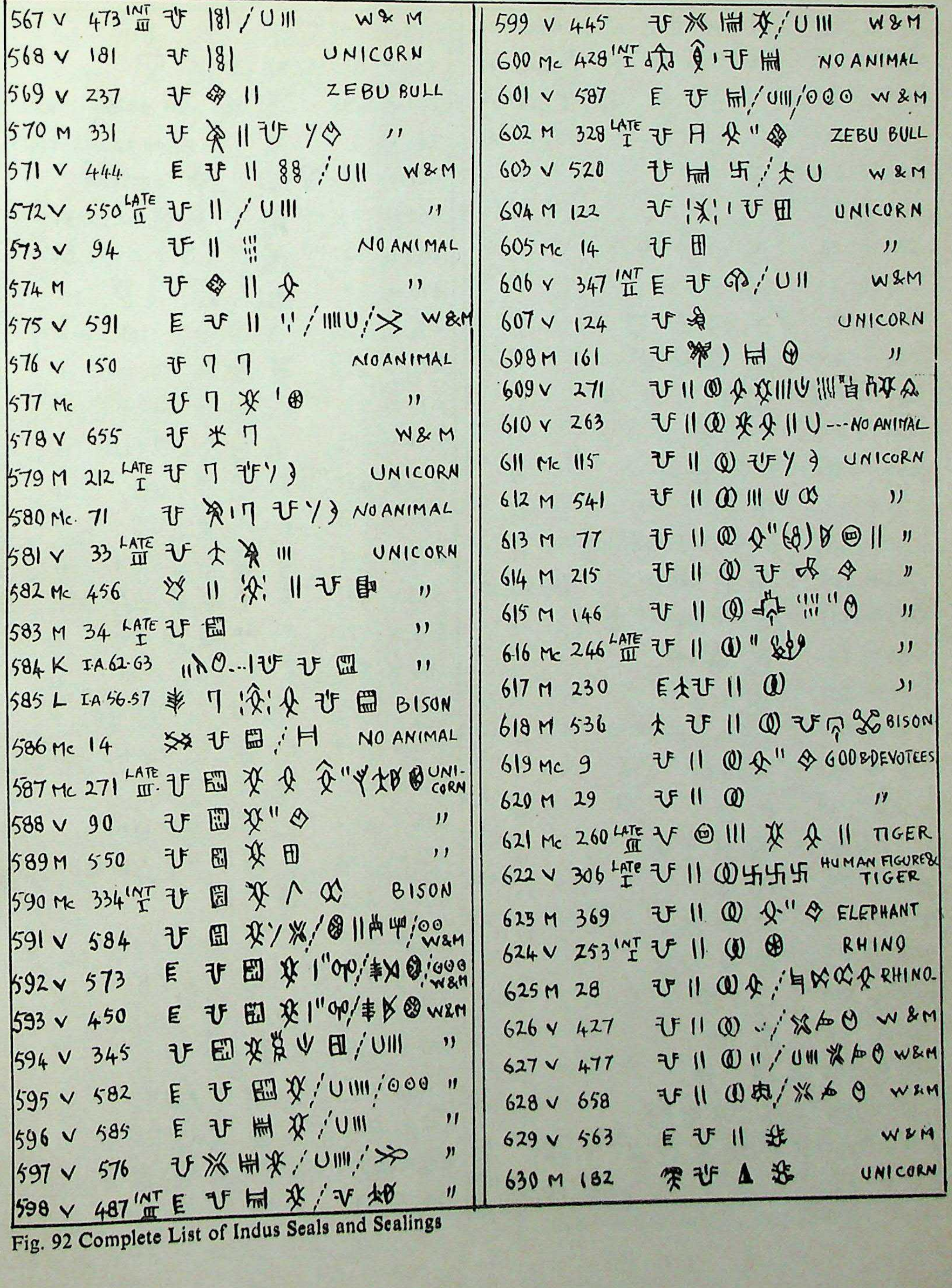
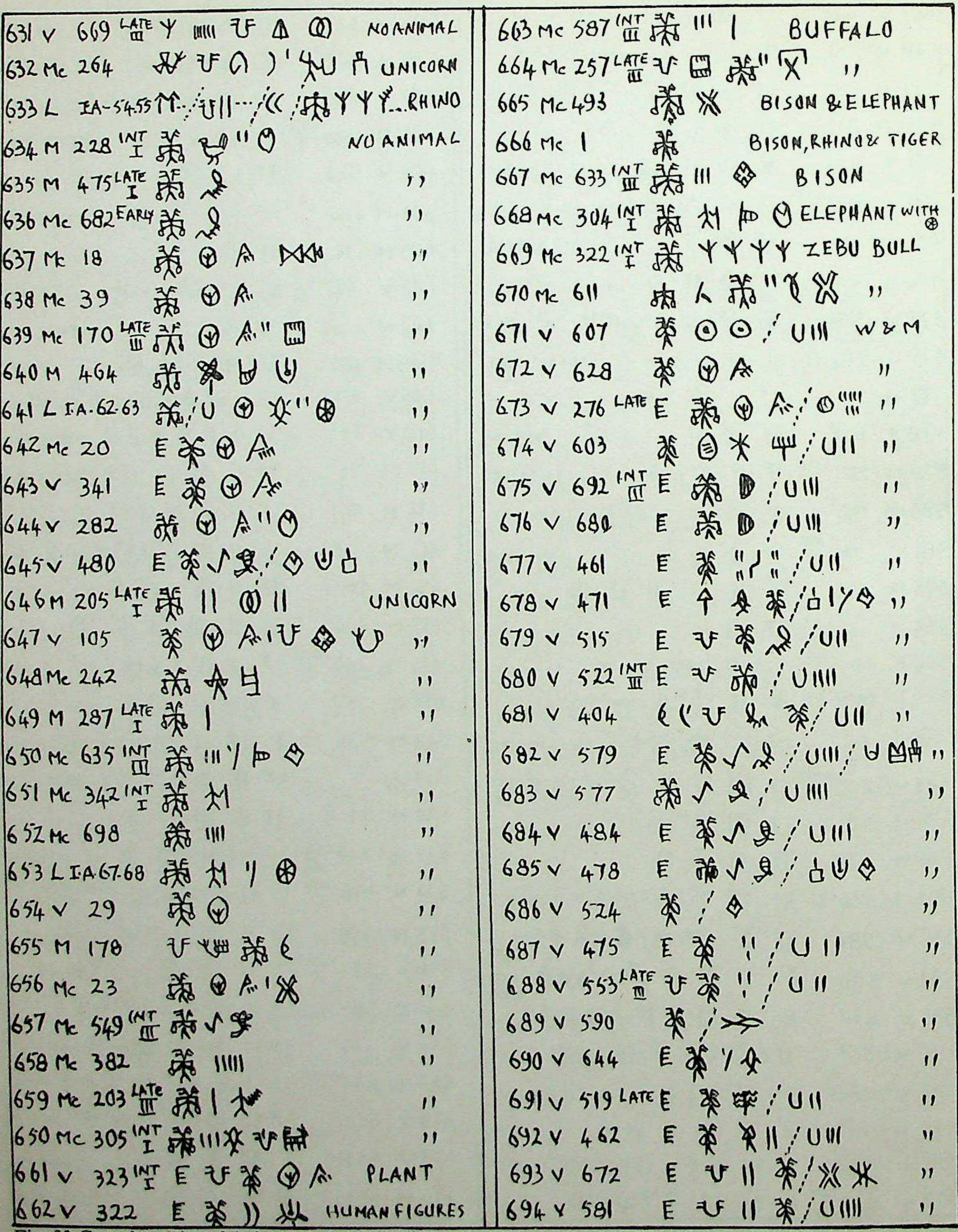

503 Mc 701 BISON
504 Mc 362 INT I "
505 Mc 15 "
506 Mc 273 LATE III NO ANIMAL
507 L I.A.57-58 "
508 M 559 "
509 M 533 INT III "
510 Mc 541 "
511 V 260 "
512 V 672 W & M
513 V 499 W & M
514 V 410 "
515 V 580 INT II "
516 V 370 "
517 M 447 NO ANIMAL
518 Mc 336 INT I "
519 Mc 142 "
520 Mc 551 INT III UNICORN
521 Mc 545 INT III "
522 M 158 "
523 Mc 583 "
524 Mc 19 LATE I "
525 M 180 "
526 V 92 "
527 V 25 "
528 Mc 60 "
529 Mc 129 BISON
530 M 319 "
531 Mc 484 TIGER
532 M 350 LATE I TIGER.
533 L I.A. 57.58 SARCOPHAGUS?
534 M 370 ELEPHANT
535 M 13 LATE BUFFALO
536 M 87 UNI-CORN
537 M 21 UNICORN
538 V 5 "
539 K I.A. 61.62 "
540 Mc 685 EARLY "
541 V 118 LATE II "
542 Mc 690 EARLY "
543 M 12 "
544 M 549 "
545 Mc 537 INT III NO ANI-MAL
546 Mc 369 INT I "
547 M 19 INT I "
548 V 666 INT II NO ANIMAL W & M etc.
549 V 704 "
550 V 348 "
551 V 683 "
552 V 510 "
553 V 492 "
554 V 595 BISON
555 V. 236 INT IV ZEBU BULL
556 Mc 535 "
557 Mc. 522 TIGER
558 Mc. 666 EARLY UNICORN
559 Mc. 664 Early "
560 M 285 "
561 Mc 403 INT I "
562 V 283 NO ANIMAL
563 Mc. 12 DANCING HUMAN FIGURES
564 M 252 UNICORN
565 Mc. 475 "
566 V 286 LATE II W & M

Fig. 91 Complete List of Indus Seals and Sealings



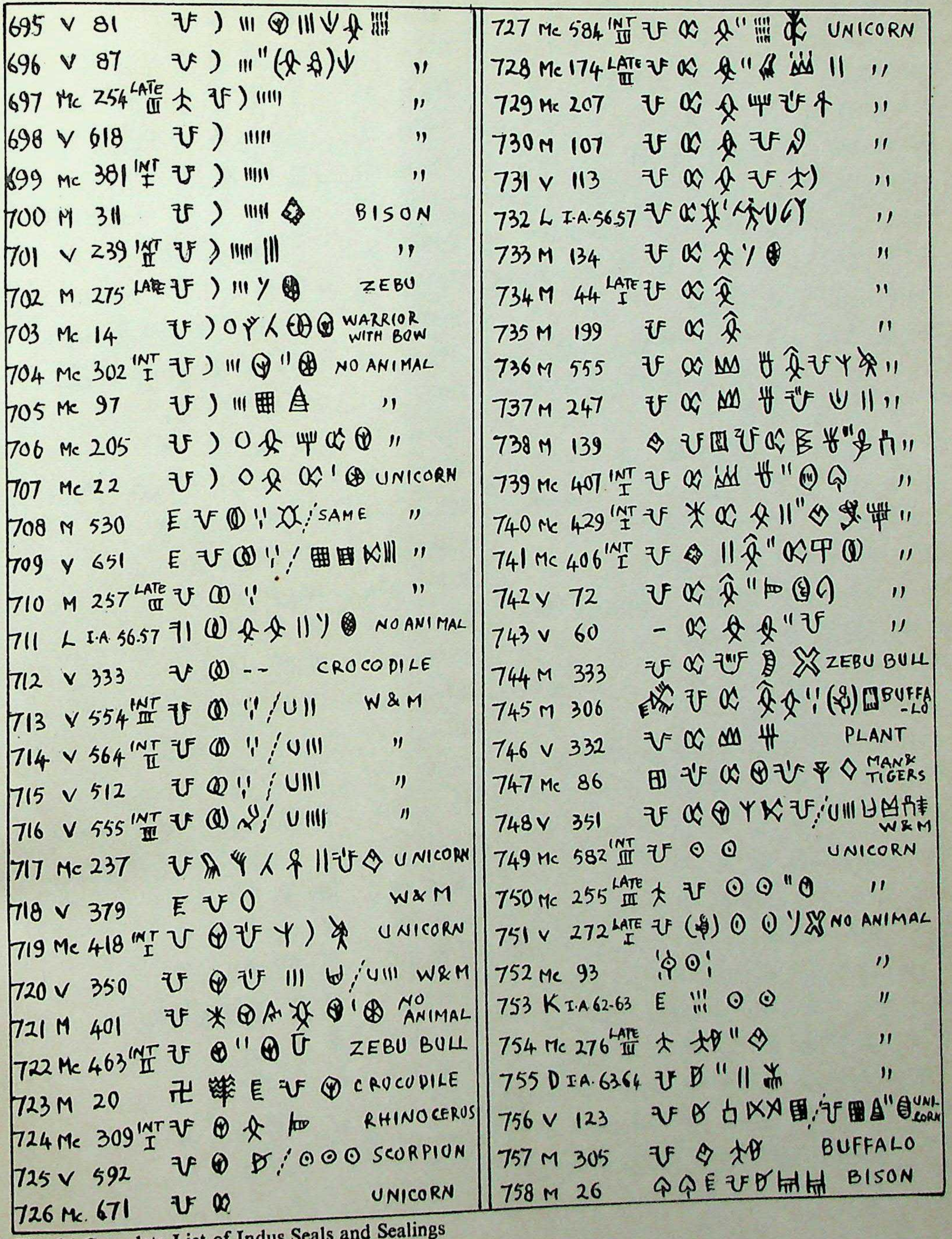
567	V	473	INT III	W & M
568	V	181		UNICORN
569	V	237		ZEBU BULL
570	M	331		,,
571	V	444		W&M
572	V	550	LATE II	,,
573	V	94		NO ANIMAL
574	M			,,
575	V	591		W&M
576	V	150		NO ANIMAL
577	Mc			,,
578	V	655		W& M
579	M	212	LATE I	UNICORN
580	Mc.	71		NO ANIMAL
581	V	33	LATE III	UNICORN
582	Mc	456		,,
583	M	34	LATE I	,,
584	K	I.A.62-63		,,
585	L	I.A.56-57		BISON
586	Mc	14		NO ANIMAL
587	Mc	271	LATE III.	UNI-CORN
588	V	90		,,
589	M	550		,,
590	Mc	334	INT I	BISON
591	V	584		W&M
592	V	573		W&M
593	V	450		W&M
594	V	345		,,
595	V	582		,,
596	V	585		,,
597	V	576		,,
598	V	487	INT III	,,
599	V	445		W&M
600	Mc	428	INT I	NO ANIMAL
601	V	587		W &M
602	M	328	LATE I	ZEBU BULL
603	V	520		W & M
604	M	122		UNICORN
605	Mc	14		,,
606	V	347	INT II	W&M
607	V	124		UNICORN
608	M	161		,,
609	V	271		
610	V	263		---NO ANIMAL
611	Mc	115		UNICORN
612	M	541		,,
613	M	77		,,
614	M	215		,,
615	M	146		,,
616	Mc	246	LATE III	,,
617	M	230		,,
618	M	536		BISON
619	Mc	9		GOD & DEVOTEES
620	M	29		,,
621	Mc	260	LATE III	TIGER
622	V	306	LATE I	HUMAN FIGURE & TIGER
623	M	369		ELEPHANT
624	V	253	INT I	RHINO
625	M	28		RHINO.
626	V	427		W &M
627	V	477		W&M
628	V	658		W&M
629	V	563		W&M
630	M	182		UNICORN

Fig. 92 Complete List of Indus Seals and Sealings



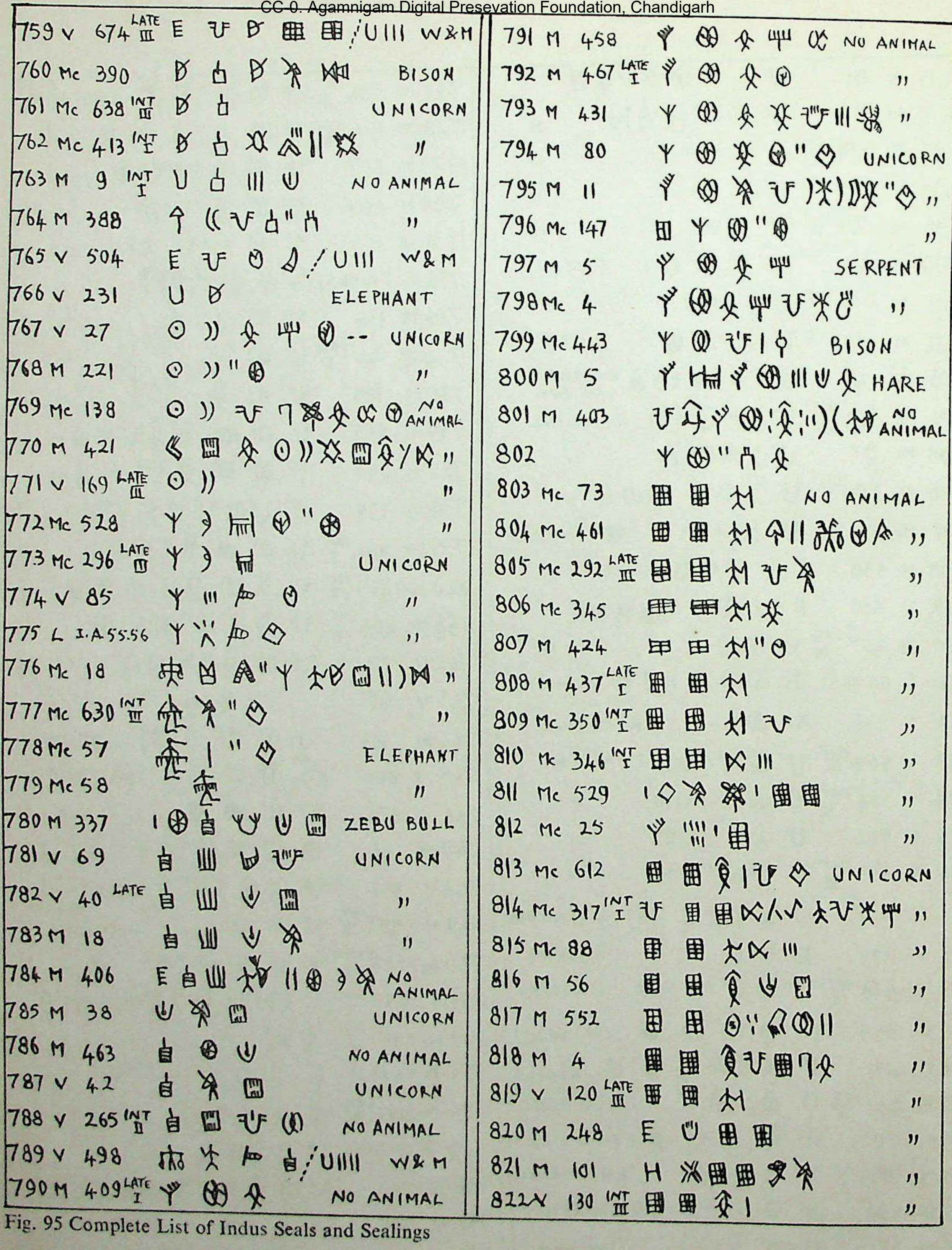
631	V	669	LATE III	NO ANIMAL
632	Mc	264		UNICORN
633	L	IA-54.55		RHINO
634	M	228	INT I	NO ANIMAL
635	M	475	LATE I	"
636	Mc	682	EARLY	"
637	Mc	18		"
638	Mc	39		"
639	Mc	170	LATE III	"
640	M	464		"
641	L	I.A.62.63		"
642	Mc	20		"
643	V	341		"
644	V	282		"
645	V	480		"
646	M	205	LATE I	UNICORN
647	V	105		"
648	Mc	242		"
649	M	287	LATE I	"
650	Mc	635	INT III	"
651	Mc	342	INT I	"
652	Mc	698		"
653	L	I.A.67.68		"
654	V	29		"
655	M	178		"
656	Mc	23		"
657	Mc	549	INT III	"
658	Mc	382		"
659	Mc	203	LATE III	"
650	Mc	305	INT I	"
661	V	323	INT I	PLANT
662	V	322		HUMAN FIGURES
663	Mc	587	INT III	BUFFALO
664	Mc	257	LATE III	"
665	Mc	493		BISON & ELEPHANT
666	Mc	1		BISON, RHINO & TIGER
667	Mc	633	INT III	BISON
668	Mc	304	INT I	ELEPHANT WITH
669	Mc	322	INT I	ZEBU BULL
670	Mc	611		"
671	V	607		W & M
672	V	628		"
673	V	276	LATE	"
674	V	603		"
675	V	692	INT III	"
676	V	680		"
677	V	461		"
678	V	471		"
679	V	515		"
680	V	522	INT III	"
681	V	404		"
682	V	579		"
683	V	577		"
684	V	484		"
685	V	478		"
686	V	524		"
687	V	475		"
688	V	553	LATE III	"
689	V	590		"
690	V	644		"
691	V	519	LATE	"
692	V	462		"
693	V	672		"
694	V	581		"

Fig. 93 Complete List of Indus Seals and Sealings



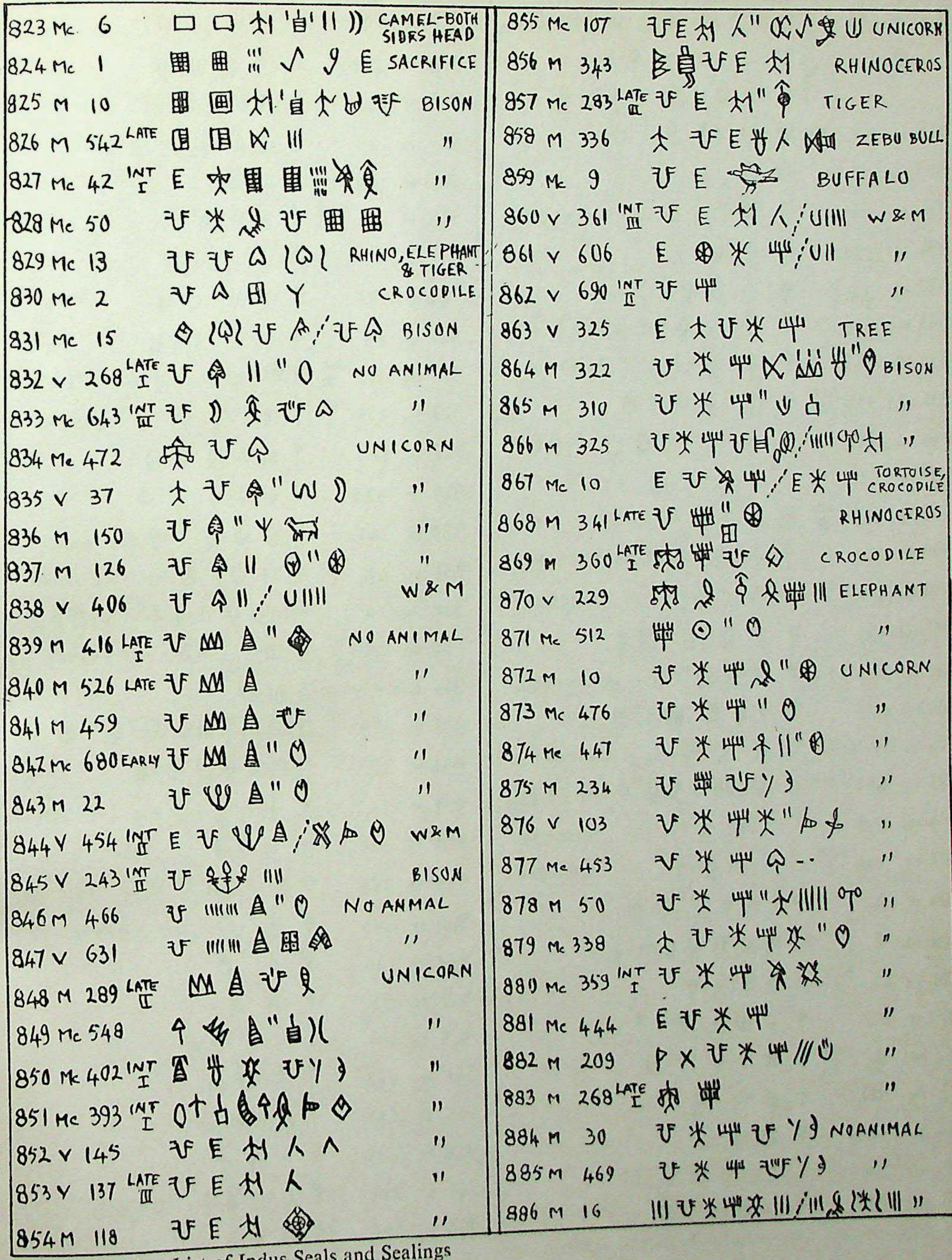
695	V	81		
696	V	87		″
697	Mc	254	LATE III	″
698	V	618		″
699	Mc	381	INT I	″
700	M	311		BISON
701	V	239	INT II	″
702	M	275	LATE	ZEBU
703	Mc	14		WARRIOR WITH BOW
704	Mc	302	INT I	NO ANIMAL
705	Mc	97		″
706	Mc	205		″
707	Mc	22		UNICORN
708	M	530		SAME ″
709	V	651		″
710	M	257	LATE III	″
711	L	I.A. 56.57		NO ANIMAL
712	V	333		CROCODILE
713	V	554	INT III	W & M
714	V	564	INT II	″
715	V	512		″
716	V	555	INT III	″
717	Mc	237		UNICORN
718	V	379		W & M
719	Mc	418	INT I	UNICORN
720	V	350		W&M
721	M	401		NO ANIMAL
722	Mc	463	INT II	ZEBU BULL
723	M	20		CROCODILE
724	Mc	309	INT I	RHINOCEROS
725	V	592		SCORPION
726	Mc.	671		UNICORN
727	Mc	584	INT III	UNICORN
728	Mc	174	LATE III	″
729	Mc	207		″
730	M	107		″
731	V	113		″
732	L	I.A. 56.57		″
733	M	134		″
734	M	44	LATE I	″
735	M	199		″
736	M	555		″
737	M	247		″
738	M	139		″
739	Mc	407	INT I	″
740	Mc	429	INT I	″
741	Mc	406	INT I	″
742	V	72		″
743	V	60		″
744	M	333		ZEBU BULL
745	M	306		BUFFA-LO
746	V	332		PLANT
747	Mc	86		MAN & TIGERS
748	V	351		W&M
749	Mc	582	INT III	UNICORN
750	Mc	255	LATE III	″
751	V	272	LATE I	NO ANIMAL
752	Mc	93		″
753	K	I.A. 62-63		″
754	Mc	276	LATE III	″
755	D	I.A. 63.64		″
756	V	123		UNI-CORN
757	M	305		BUFFALO
758	M	26		BISON

Fig. 94 Complete List of Indus Seals and Sealings



759	V	674	LATE III	W&M
760	Mc	390		BISON
761	Mc	638	INT III	UNICORN
762	Mc	413	INT I	,,
763	M	9	INT I	NO ANIMAL
764	M	388		,,
765	V	504		W&M
766	V	231		ELEPHANT
767	V	27		UNICORN
768	M	221		,,
769	Mc	138		NO ANIMAL
770	M	421		,,
771	V	169	LATE III	,,
772	Mc	528		,,
773	Mc	296	LATE III	UNICORN
774	V	85		,,
775	L	I.A.55.56		,,
776	Mc	18		,,
777	Mc	630	INT III	,,
778	Mc	57		ELEPHANT
779	Mc	58		,,
780	M	337		ZEBU BULL
781	V	69		UNICORN
782	V	40	LATE	,,
783	M	18		,,
784	M	406		NO ANIMAL
785	M	38		UNICORN
786	M	463		NO ANIMAL
787	V	42		UNICORN
788	V	265	INT II	NO ANIMAL
789	V	498		W&M
790	M	409	LATE I	NO ANIMAL
791	M	458		NO ANIMAL
792	M	467	LATE I	,,
793	M	431		,,
794	M	80		UNICORN
795	M	11		,,
796	Mc	147		,,
797	M	5		SERPENT
798	Mc	4		,,
799	Mc	443		BISON
800	M	5		HARE
801	M	403		NO ANIMAL
802				
803	Mc	73		NO ANIMAL
804	Mc	461		,,
805	Mc	292	LATE III	,,
806	Mc	345		,,
807	M	424		,,
808	M	437	LATE I	,,
809	Mc	350	INT I	,,
810	Mc	346	INT I	,,
811	Mc	529		,,
812	Mc	25		,,
813	Mc	612		UNICORN
814	Mc	317	INT I	,,
815	Mc	88		,,
816	M	56		,,
817	M	552		,,
818	M	4		,,
819	V	120	LATE III	,,
820	M	248		,,
821	M	101		,,
822	V	130	INT III	,,

Fig. 95 Complete List of Indus Seals and Sealings



823	Mc	6		CAMEL-BOTH SIDES HEAD
824	Mc	1		SACRIFICE
825	M	10		BISON
826	M	542	LATE	"
827	Mc	42	INT I	"
828	Mc	50		"
829	Mc	13		RHINO, ELEPHANT & TIGER
830	Mc	2		CROCODILE
831	Mc	15		BISON
832	V	268	LATE I	NO ANIMAL
833	Mc	643	INT III	"
834	Mc	472		UNICORN
835	V	37		"
836	M	150		"
837	M	126		"
838	V	406		W & M
839	M	416	LATE I	NO ANIMAL
840	M	526	LATE	"
841	M	459		"
842	Mc	680	EARLY	"
843	M	22		"
844	V	454	INT II	W&M
845	V	243	INT II	BISON
846	M	466		NO ANMAL
847	V	631		"
848	M	289	LATE II	UNICORN
849	Mc	548		"
850	Mc	402	INT I	"
851	Mc	393	INT I	"
852	V	145		"
853	V	137	LATE III	"
854	M	118		"
855	Mc	107		UNICORN
856	M	343		RHINOCEROS
857	Mc	283	LATE III	TIGER
858	M	336		ZEBU BULL
859	Mc	9		BUFFALO
860	V	361	INT III	W&M
861	V	606		"
862	V	690	INT II	"
863	V	325		TREE
864	M	322		BISON
865	M	310		"
866	M	325		"
867	Mc	10		TORTOISE, CROCODILE
868	M	341	LATE	RHINOCEROS
869	M	360	LATE I	CROCODILE
870	V	229		ELEPHANT
871	Mc	512		"
872	M	10		UNICORN
873	Mc	476		"
874	Mc	447		"
875	M	234		"
876	V	103		"
877	Mc	453		"
878	M	50		"
879	Mc	338		"
880	Mc	359	INT I	"
881	Mc	444		"
882	M	209		"
883	M	268	LATE I	"
884	M	30		NO ANIMAL
885	M	469		"
886	M	16		"

Fig. 96 Complete List of Indus Seals and Sealings

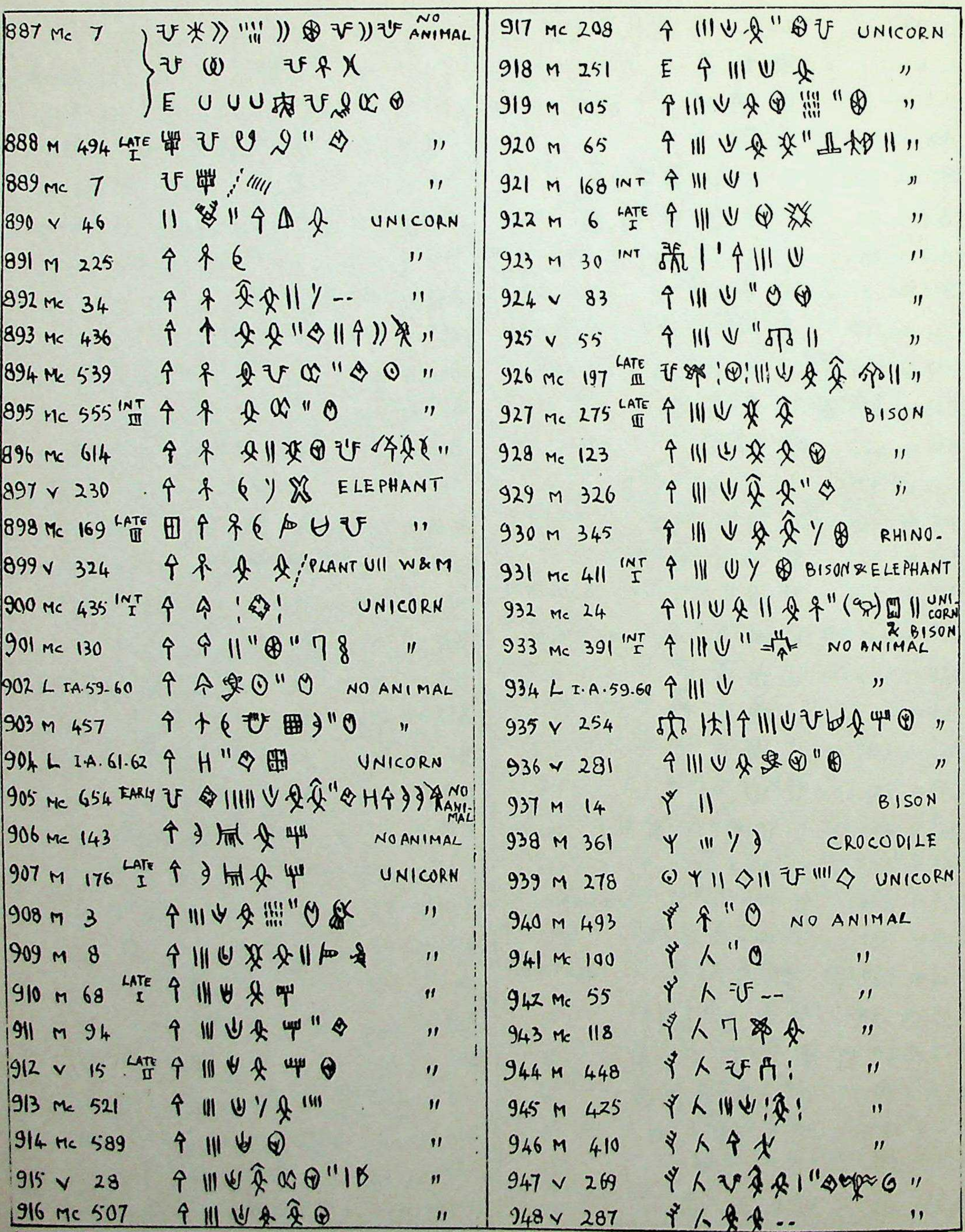
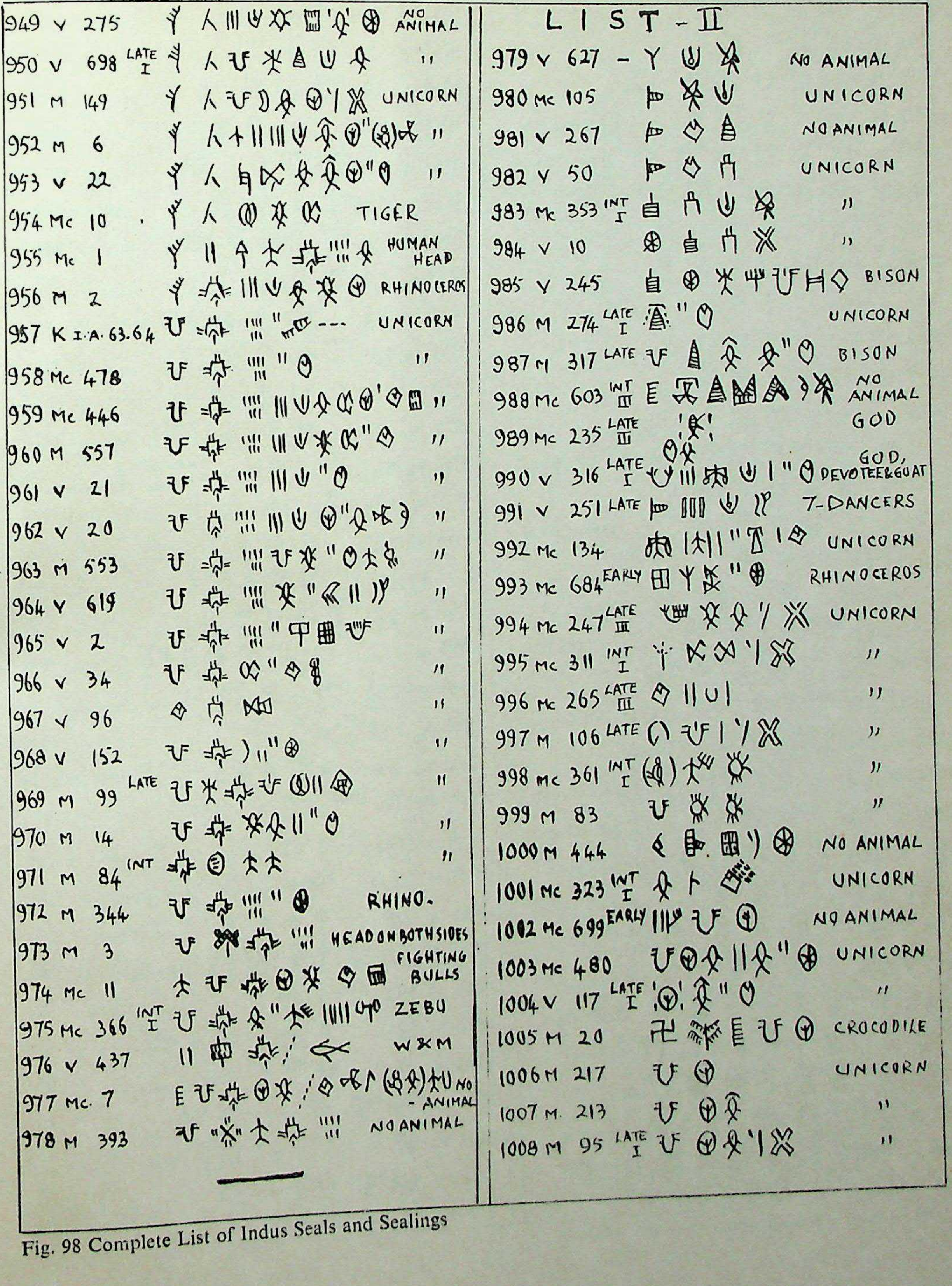

887 Mc 7 NO ANIMAL
888 M 494 LATE I "
889 Mc 7 "
890 V 46 UNICORN
891 M 225 "
892 Mc 34 "
893 Mc 436 "
894 Mc 539 "
895 Mc 555 INT III "
896 Mc 614 "
897 V 230 ELEPHANT
898 Mc 169 LATE III "
899 V 324 PLANT UII W&M
900 Mc 435 INT I UNICORN
901 Mc 130 "
902 L IA.59-60 NO ANIMAL
903 M 457 "
904 L I.A.61-62 UNICORN
905 Mc 654 EARLY NO ANIMAL
906 Mc 143 NO ANIMAL
907 M 176 LATE I UNICORN
908 M 3 "
909 M 8 "
910 M 68 LATE I "
911 M 94 "
912 V 15 LATE II "
913 Mc 521 "
914 Mc 589 "
915 V 28 "
916 Mc 507 "
917 Mc 208 UNICORN
918 M 251 "
919 M 105 "
920 M 65 "
921 M 168 INT "
922 M 6 LATE I "
923 M 30 INT "
924 V 83 "
925 V 55 "
926 Mc 197 LATE III "
927 Mc 275 LATE III BISON
928 Mc 123 "
929 M 326 "
930 M 345 RHINO.
931 Mc 411 INT I BISON & ELEPHANT
932 Mc 24 UNICORN & BISON
933 Mc 391 INT I NO ANIMAL
934 L I.A.59-60 "
935 V 254 "
936 V 281 "
937 M 14 BISON
938 M 361 CROCODILE
939 M 278 UNICORN
940 M 493 NO ANIMAL
941 Mc 100 "
942 Mc 55 "
943 Mc 118 "
944 M 448 "
945 M 425 "
946 M 410 "
947 V 269 "
948 V 287 "

Fig. 97 Complete List of Indus Seals and Sealings

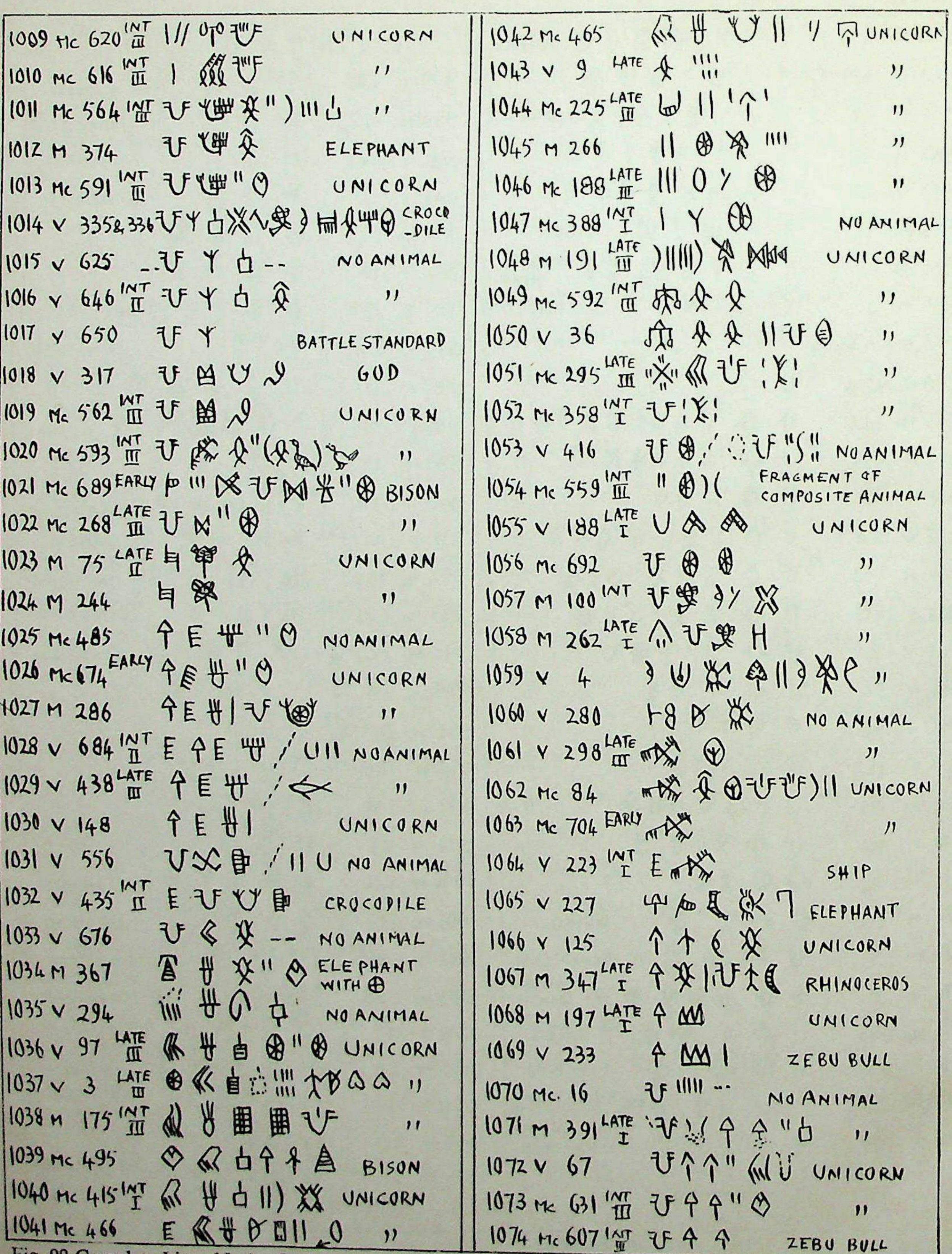


949	V	275		NO ANIMAL
950	V	698	LATE I	"
951	M	149		UNICORN
952	M	6		"
953	V	22		"
954	Mc	10		TIGER
955	Mc	1		HUMAN HEAD
956	M	2		RHINOCEROS
957	K	I.A. 63.64		UNICORN
958	Mc	478		"
959	Mc	446		"
960	M	557		"
961	V	21		"
962	V	20		"
963	M	553		"
964	V	619		"
965	V	2		"
966	V	34		"
967	V	96		"
968	V	152		"
969	M	99	LATE	"
970	M	14		"
971	M	84	INT	"
972	M	344		RHINO.
973	M	3		HEAD ON BOTH SIDES
974	Mc	11		FIGHTING BULLS
975	Mc	366	INT I	ZEBU
976	V	437		W&M
977	Mc.	7		NO - ANIMAL
978	M	393		NO ANIMAL

LIST - II

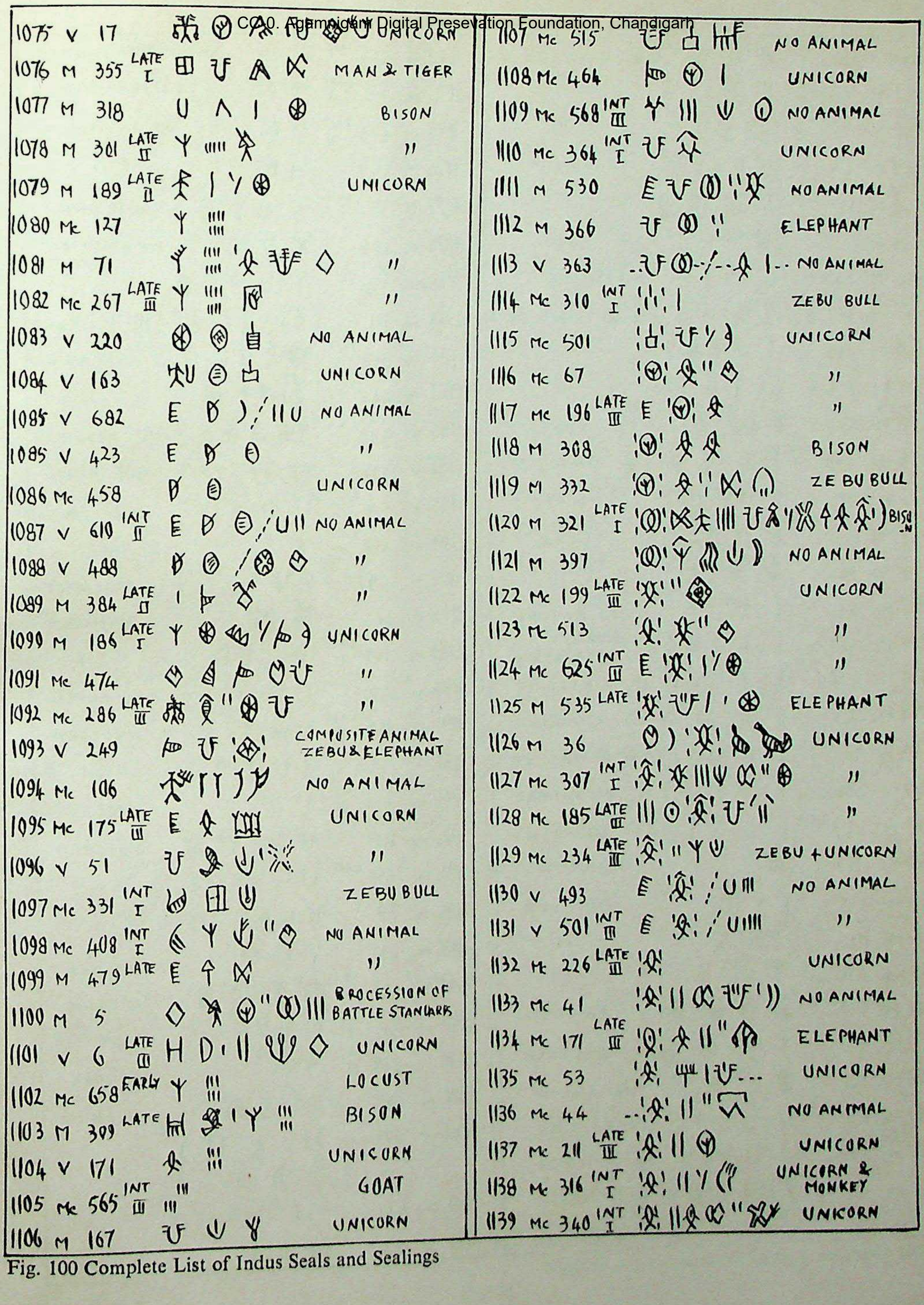
979	V	627	-	NO ANIMAL
980	Mc	105		UNICORN
981	V	267		NO ANIMAL
982	V	50		UNICORN
983	Mc	353	INT I	"
984	V	10		"
985	V	245		BISON
986	M	274	LATE I	UNICORN
987	M	317	LATE	BISON
988	Mc	603	INT III	NO ANIMAL
989	Mc	235	LATE III	GOD
990	V	316	LATE I	GOD, DEVOTEE&GOAT
991	V	251	LATE	7-DANCERS
992	Mc	134		UNICORN
993	Mc	684	EARLY	RHINOCEROS
994	Mc	247	LATE III	UNICORN
995	Mc	311	INT I	"
996	Mc	265	LATE III	"
997	M	106	LATE	"
998	Mc	361	INT I	"
999	M	83		"
1000	M	444		NO ANIMAL
1001	Mc	323	INT I	UNICORN
1002	Mc	699	EARLY	NO ANIMAL
1003	Mc	480		UNICORN
1004	V	117	LATE I	"
1005	M	20		CROCODILE
1006	M	217		UNICORN
1007	M.	213		"
1008	M	95	LATE I	"

Fig. 98 Complete List of Indus Seals and Sealings



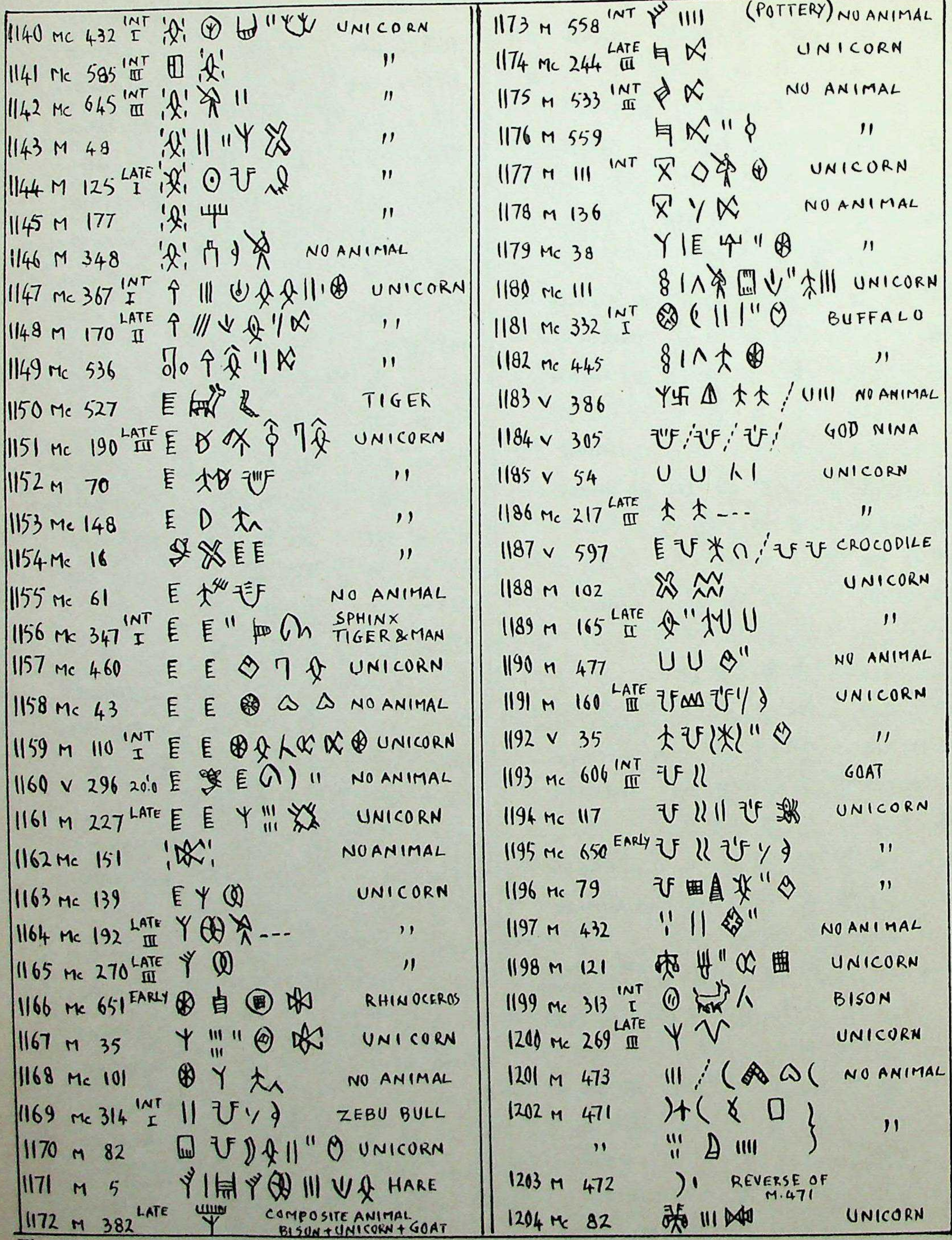
1009	Mc	620	INT III	UNICORN
1010	Mc	616	INT III	,,
1011	Mc	564	INT III	,,
1012	M	374		ELEPHANT
1013	Mc	591	INT III	UNICORN
1014	V	335&336		CROCO-DILE
1015	V	625		NO ANIMAL
1016	V	646	INT II	,,
1017	V	650		BATTLE STANDARD
1018	V	317		GOD
1019	Mc	562	INT III	UNICORN
1020	Mc	593	INT III	,,
1021	Mc	689	EARLY	BISON
1022	Mc	268	LATE III	,,
1023	M	75	LATE II	UNICORN
1024	M	244		,,
1025	Mc	485		NO ANIMAL
1026	Mc	674	EARLY	UNICORN
1027	M	286		,,
1028	V	684	INT II	NO ANIMAL
1029	V	438	LATE III	,,
1030	V	148		UNICORN
1031	V	556		NO ANIMAL
1032	V	435	INT II	CROCODILE
1033	V	676		NO ANIMAL
1034	M	367		ELEPHANT WITH ⊕
1035	V	294		NO ANIMAL
1036	V	97	LATE III	UNICORN
1037	V	3	LATE III	,,
1038	M	175	INT III	,,
1039	Mc	495		BISON
1040	Mc	415	INT I	UNICORN
1041	Mc	466		,,
1042	Mc	465		UNICORN
1043	V	9	LATE	,,
1044	Mc	225	LATE III	,,
1045	M	266		,,
1046	Mc	188	LATE III	,,
1047	Mc	388	INT I	NO ANIMAL
1048	M	191	LATE III	UNICORN
1049	Mc	592	INT III	,,
1050	V	36		,,
1051	Mc	295	LATE III	,,
1052	Mc	358	INT I	,,
1053	V	416		NO ANIMAL
1054	Mc	559	INT III	FRAGMENT OF COMPOSITE ANIMAL
1055	V	188	LATE I	UNICORN
1056	Mc	692		,,
1057	M	100	INT	,,
1058	M	262	LATE I	,,
1059	V	4		,,
1060	V	280		NO ANIMAL
1061	V	298	LATE III	,,
1062	Mc	84		UNICORN
1063	Mc	704	EARLY	,,
1064	V	223	INT I	SHIP
1065	V	227		ELEPHANT
1066	V	125		UNICORN
1067	M	347	LATE I	RHINOCEROS
1068	M	197	LATE I	UNICORN
1069	V	233		ZEBU BULL
1070	Mc.	16		NO ANIMAL
1071	M	391	LATE I	,,
1072	V	67		UNICORN
1073	Mc	631	INT III	,,
1074	Mc	607	INT III	ZEBU BULL

Fig. 99 Complete List of Indus Seals and Sealings



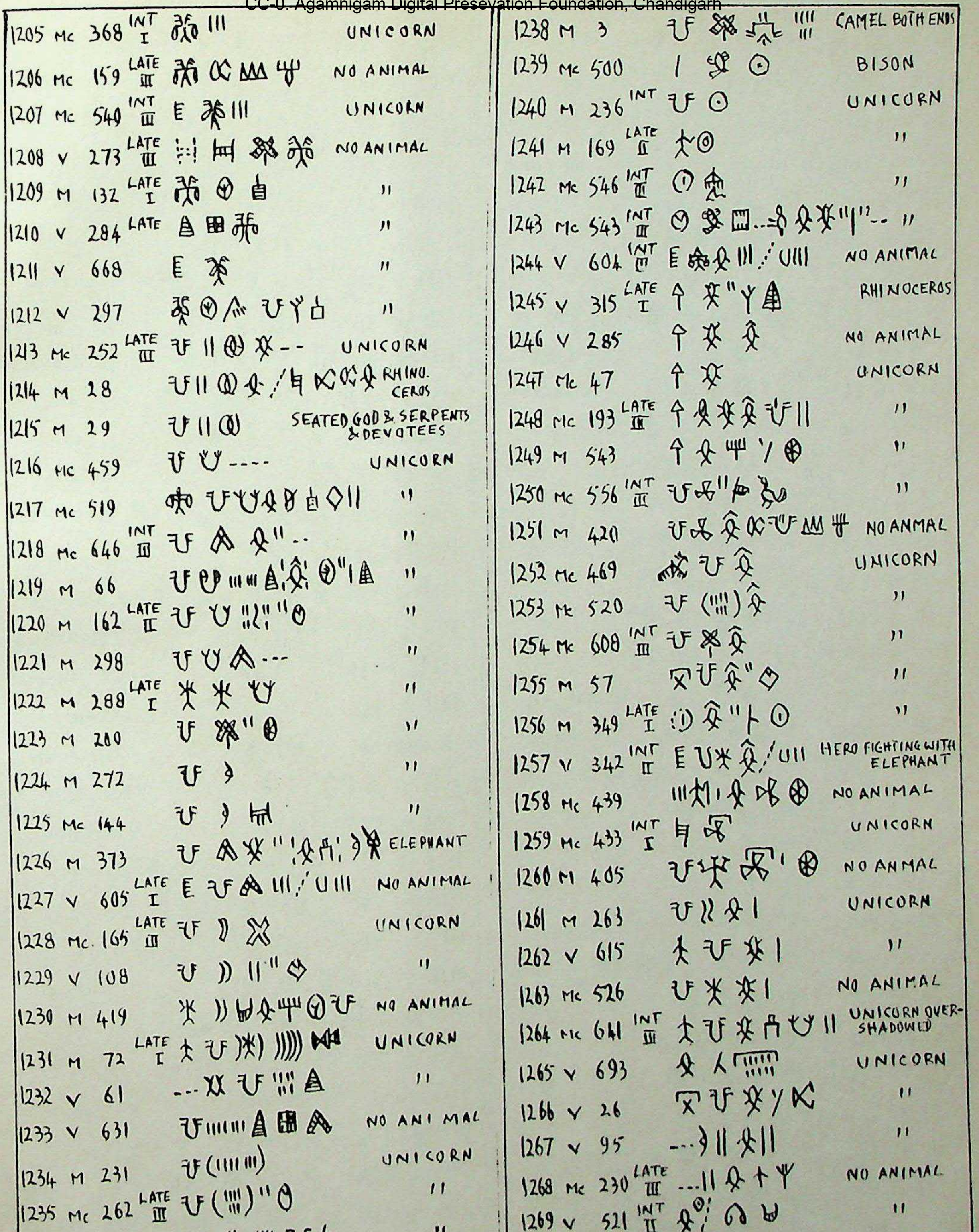
1075	V	17		UNICORN
1076	M	355	LATE I	MAN & TIGER
1077	M	318		BISON
1078	M	301	LATE II	"
1079	M	189	LATE II	UNICORN
1080	Mc	127		
1081	M	71		"
1082	Mc	267	LATE III	"
1083	V	220		NO ANIMAL
1084	V	163		UNICORN
1085	V	682		NO ANIMAL
1085	V	423		"
1086	Mc	458		UNICORN
1087	V	610	INT II	NO ANIMAL
1088	V	488		"
1089	M	384	LATE II	"
1090	M	186	LATE I	UNICORN
1091	Mc	474		"
1092	Mc	286	LATE III	"
1093	V	249		COMPOSITE ANIMAL ZEBU & ELEPHANT
1094	Mc	106		NO ANIMAL
1095	Mc	175	LATE III	UNICORN
1096	V	51		"
1097	Mc	331	INT I	ZEBU BULL
1098	Mc	408	INT I	NO ANIMAL
1099	M	479	LATE	"
1100	M	5		PROCESSION OF BATTLE STANDARDS
1101	V	6	LATE III	UNICORN
1102	Mc	658	EARLY	LOCUST
1103	M	309	LATE	BISON
1104	V	171		UNICORN
1105	Mc	565	INT III	GOAT
1106	M	167		UNICORN
1107	Mc	515		NO ANIMAL
1108	Mc	464		UNICORN
1109	Mc	568	INT III	NO ANIMAL
1110	Mc	364	INT I	UNICORN
1111	M	530		NO ANIMAL
1112	M	366		ELEPHANT
1113	V	363		NO ANIMAL
1114	Mc	310	INT I	ZEBU BULL
1115	Mc	501		UNICORN
1116	Mc	67		"
1117	Mc	196	LATE III	"
1118	M	308		BISON
1119	M	332		ZEBU BULL
1120	M	321	LATE I	BISON
1121	M	397		NO ANIMAL
1122	Mc	199	LATE III	UNICORN
1123	Mc	513		"
1124	Mc	625	INT III	"
1125	M	535	LATE	ELEPHANT
1126	M	36		UNICORN
1127	Mc	307	INT I	"
1128	Mc	185	LATE III	"
1129	Mc	234	LATE III	ZEBU + UNICORN
1130	V	493		NO ANIMAL
1131	V	501	INT III	"
1132	Mc	226	LATE III	UNICORN
1133	Mc	41		NO ANIMAL
1134	Mc	171	LATE III	ELEPHANT
1135	Mc	53		UNICORN
1136	Mc	44		NO ANIMAL
1137	Mc	211	LATE III	UNICORN
1138	Mc	316	INT I	UNICORN & MONKEY
1139	Mc	340	INT I	UNICORN

Fig. 100 Complete List of Indus Seals and Sealings



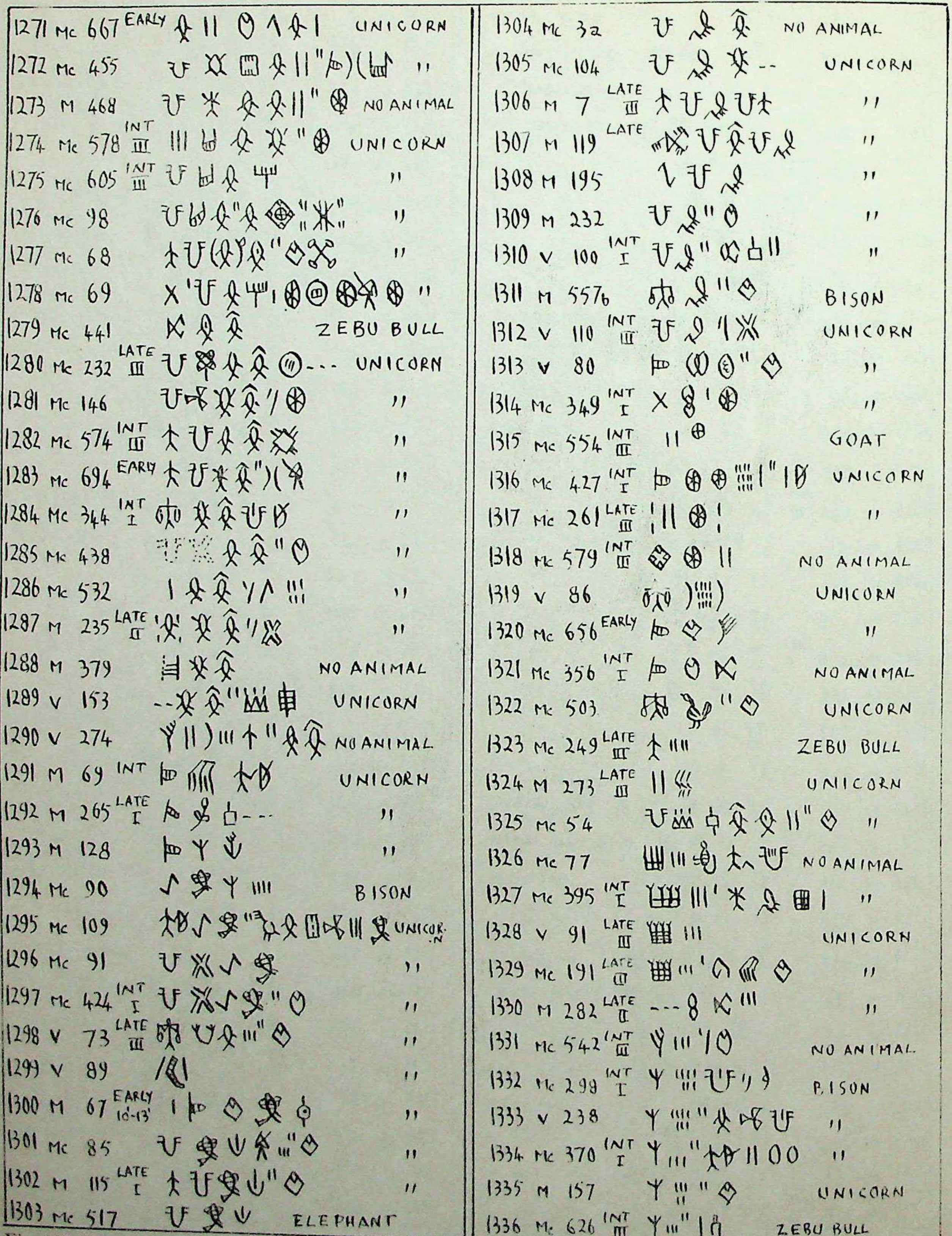
1140	Mc	432	INT I	UNICORN
1141	Mc	585	INT III	"
1142	Mc	645	INT III	"
1143	M	48		"
1144	M	125	LATE I	"
1145	M	177		"
1146	M	348		NO ANIMAL
1147	Mc	367	INT I	UNICORN
1148	M	170	LATE II	"
1149	Mc	536		"
1150	Mc	527		TIGER
1151	Mc	190	LATE III	UNICORN
1152	M	70		"
1153	Mc	148		"
1154	Mc	16		"
1155	Mc	61		NO ANIMAL
1156	Mc	347	INT I	SPHINX TIGER & MAN
1157	Mc	460		UNICORN
1158	Mc	43		NO ANIMAL
1159	M	110	INT I	UNICORN
1160	V	296		NO ANIMAL
1161	M	227	LATE	UNICORN
1162	Mc	151		NO ANIMAL
1163	Mc	139		UNICORN
1164	Mc	192	LATE III	"
1165	Mc	270	LATE III	"
1166	Mc	651	EARLY	RHINOCEROS
1167	M	35		UNICORN
1168	Mc	101		NO ANIMAL
1169	Mc	314	INT I	ZEBU BULL
1170	M	82		UNICORN
1171	M	5		HARE
1172	M	382	LATE	COMPOSITE ANIMAL BISON + UNICORN + GOAT
1173	M	558	INT	(POTTERY) NO ANIMAL
1174	Mc	244	LATE III	UNICORN
1175	M	533	INT III	NO ANIMAL
1176	M	559		"
1177	M	111	INT	UNICORN
1178	M	136		NO ANIMAL
1179	Mc	38		"
1180	Mc	111		UNICORN
1181	Mc	332	INT I	BUFFALO
1182	Mc	445		"
1183	V	386		NO ANIMAL
1184	V	305		GOD NINA
1185	V	54		UNICORN
1186	Mc	217	LATE III	"
1187	V	597		CROCODILE
1188	M	102		UNICORN
1189	M	165	LATE II	"
1190	M	477		NO ANIMAL
1191	M	160	LATE III	UNICORN
1192	V	35		"
1193	Mc	606	INT III	GOAT
1194	Mc	117		UNICORN
1195	Mc	650	EARLY	"
1196	Mc	79		"
1197	M	432		NO ANIMAL
1198	M	121		UNICORN
1199	Mc	313	INT I	BISON
1200	Mc	269	LATE III	UNICORN
1201	M	473		NO ANIMAL
1202	M	471		"
"				
1203	M	472		REVERSE OF M.471
1204	Mc	82		UNICORN

Fig. 101 Complete List of Indus Seals and Sealings



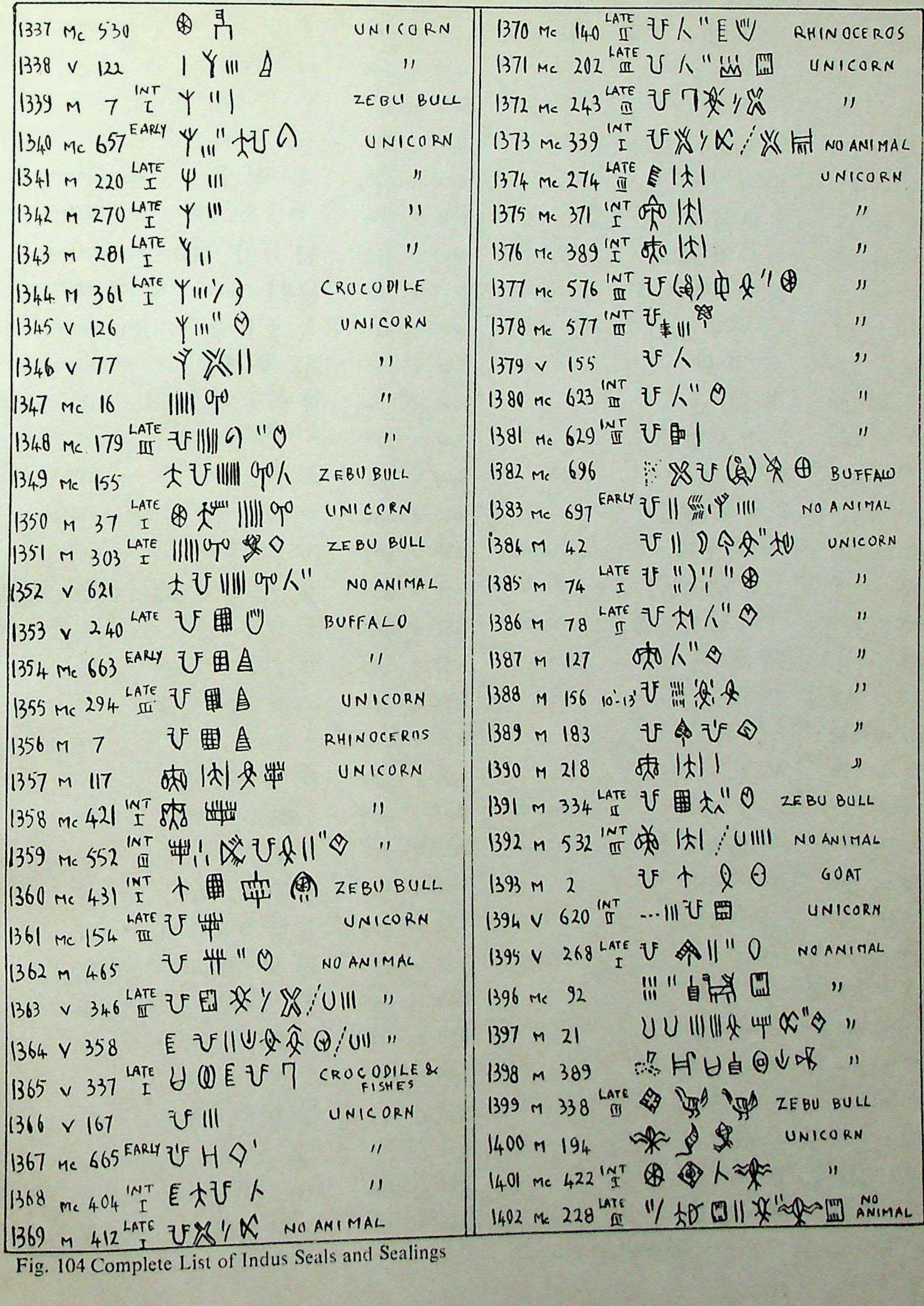
1205	Mc	368	INT I	UNICORN
1206	Mc	159	LATE III	NO ANIMAL
1207	Mc	549	INT III	UNICORN
1208	V	273	LATE III	NO ANIMAL
1209	M	132	LATE I	"
1210	V	284	LATE	"
1211	V	668		"
1212	V	297		"
1213	Mc	252	LATE III	UNICORN
1214	M	28		RHINOCEROS
1215	M	29		SEATED GOD & SERPENTS & DEVOTEES
1216	Mc	459		UNICORN
1217	Mc	519		"
1218	Mc	646	INT III	"
1219	M	66		"
1220	M	162	LATE II	"
1221	M	298		"
1222	M	288	LATE I	"
1223	M	280		"
1224	M	272		"
1225	Mc	144		"
1226	M	373		ELEPHANT
1227	V	605	LATE I	NO ANIMAL
1228	Mc.	165	LATE III	UNICORN
1229	V	108		"
1230	M	419		NO ANIMAL
1231	M	72	LATE I	UNICORN
1232	V	61		"
1233	V	631		NO ANIMAL
1234	M	231		UNICORN
1235	Mc	262	LATE III	"
1236	Mc	32		"
1237	Mc	595	INT III	"
1238	M	3		CAMEL BOTH ENDS
1239	Mc	500		BISON
1240	M	236	INT	UNICORN
1241	M	169	LATE II	"
1242	Mc	546	INT III	"
1243	Mc	543	INT III	"
1244	V	604	INT III	NO ANIMAL
1245	V	315	LATE I	RHINOCEROS
1246	V	285		NO ANIMAL
1247	Mc	47		UNICORN
1248	Mc	193	LATE III	"
1249	M	543		"
1250	Mc	556	INT III	"
1251	M	420		NO ANMAL
1252	Mc	469		UNICORN
1253	Mc	520		"
1254	Mc	608	INT III	"
1255	M	57		"
1256	M	349	LATE I	"
1257	V	342	INT II	HERO FIGHTING WITH ELEPHANT
1258	Mc	439		NO ANIMAL
1259	Mc	433	INT I	UNICORN
1260	M	405		NO ANMAL
1261	M	263		UNICORN
1262	V	615		"
1263	Mc	526		NO ANIMAL
1264	Mc	641	INT III	UNICORN OVER-SHADOWED
1265	V	693		UNICORN
1266	V	26		"
1267	V	95		"
1268	Mc	230	LATE III	NO ANIMAL
1269	V	521	INT II	"
1270	Mc	632	INT III	UNICORN

Fig. 102 Complete List of Indus Seals and Sealings



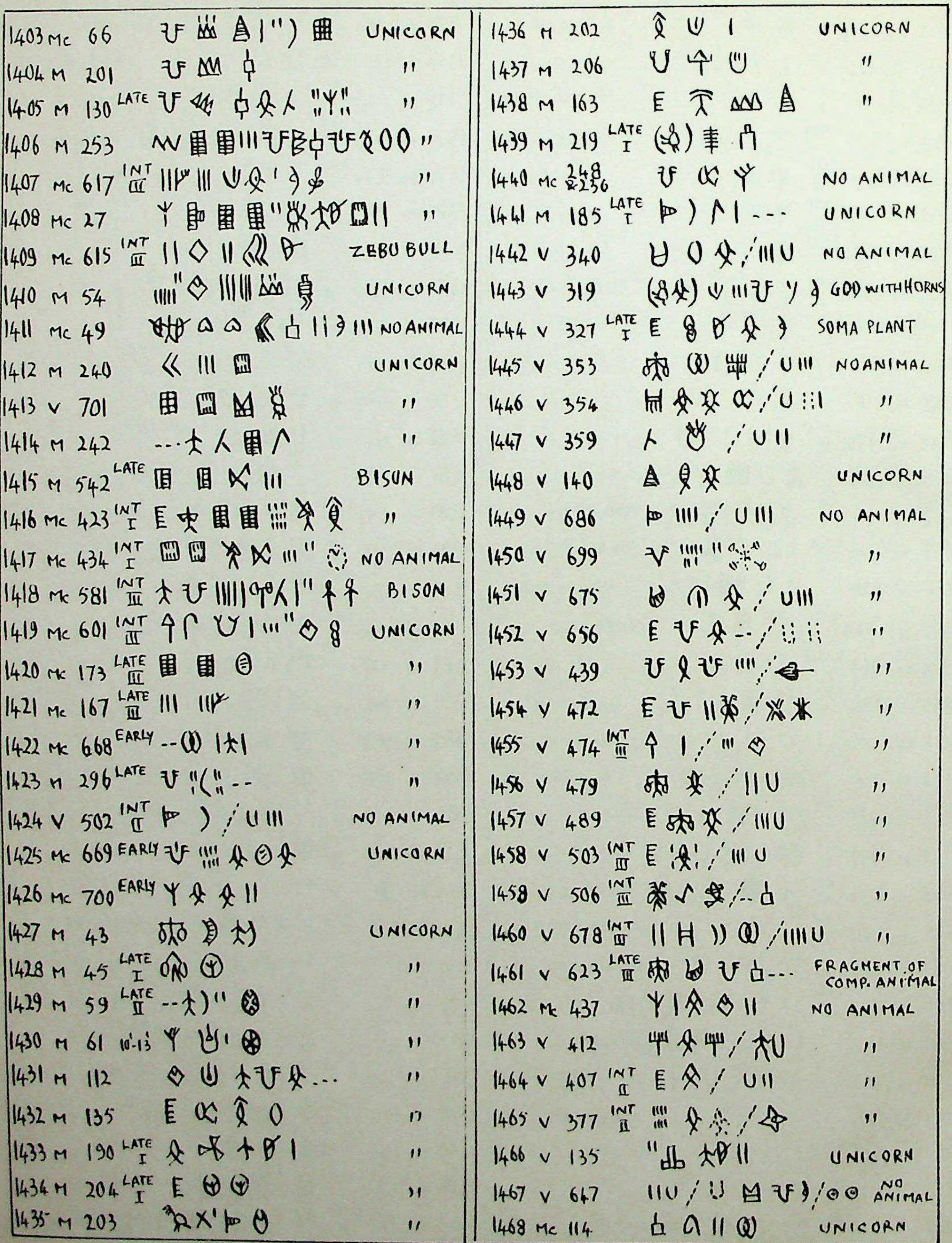
1271	Mc	667	EARLY	UNICORN
1272	Mc	455		"
1273	M	468		NO ANIMAL
1274	Mc	578	INT III	UNICORN
1275	Mc	605	INT III	"
1276	Mc	98		"
1277	Mc	68		"
1278	Mc	69		"
1279	Mc	441		ZEBU BULL
1280	Mc	232	LATE III	UNICORN
1281	Mc	146		"
1282	Mc	574	INT III	"
1283	Mc	694	EARLY	"
1284	Mc	344	INT I	"
1285	Mc	438		"
1286	Mc	532		"
1287	M	235	LATE II	"
1288	M	379		NO ANIMAL
1289	V	153		UNICORN
1290	V	274		NO ANIMAL
1291	M	69	INT	UNICORN
1292	M	265	LATE I	"
1293	M	128		"
1294	Mc	90		BISON
1295	Mc	109		UNICORN
1296	Mc	91		"
1297	Mc	424	INT I	"
1298	V	73	LATE III	"
1299	V	89		"
1300	M	67	EARLY 10-13'	"
1301	Mc	85		"
1302	M	115	LATE I	"
1303	Mc	517		ELEPHANT
1304	Mc	32		NO ANIMAL
1305	Mc	104		UNICORN
1306	M	7	LATE III	"
1307	M	119	LATE	"
1308	M	195		"
1309	M	232		"
1310	V	100	INT I	"
1311	M	557b		BISON
1312	V	110	INT III	UNICORN
1313	V	80		"
1314	Mc	349	INT I	"
1315	Mc	554	INT III	GOAT
1316	Mc	427	INT I	UNICORN
1317	Mc	261	LATE III	"
1318	Mc	579	INT III	NO ANIMAL
1319	V	86		UNICORN
1320	Mc	656	EARLY	"
1321	Mc	356	INT I	NO ANIMAL
1322	Mc	503		UNICORN
1323	Mc	249	LATE III	ZEBU BULL
1324	M	273	LATE III	UNICORN
1325	Mc	54		"
1326	Mc	77		NO ANIMAL
1327	Mc	395	INT I	"
1328	V	91	LATE III	UNICORN
1329	Mc	191	LATE III	"
1330	M	282	LATE II	"
1331	Mc	542	INT III	NO ANIMAL
1332	Mc	299	INT I	BISON
1333	V	238		"
1334	Mc	370	INT I	"
1335	M	157		UNICORN
1336	Mc	626	INT III	ZEBU BULL

Fig. 103 Complete List of Indus Seals and Sealings



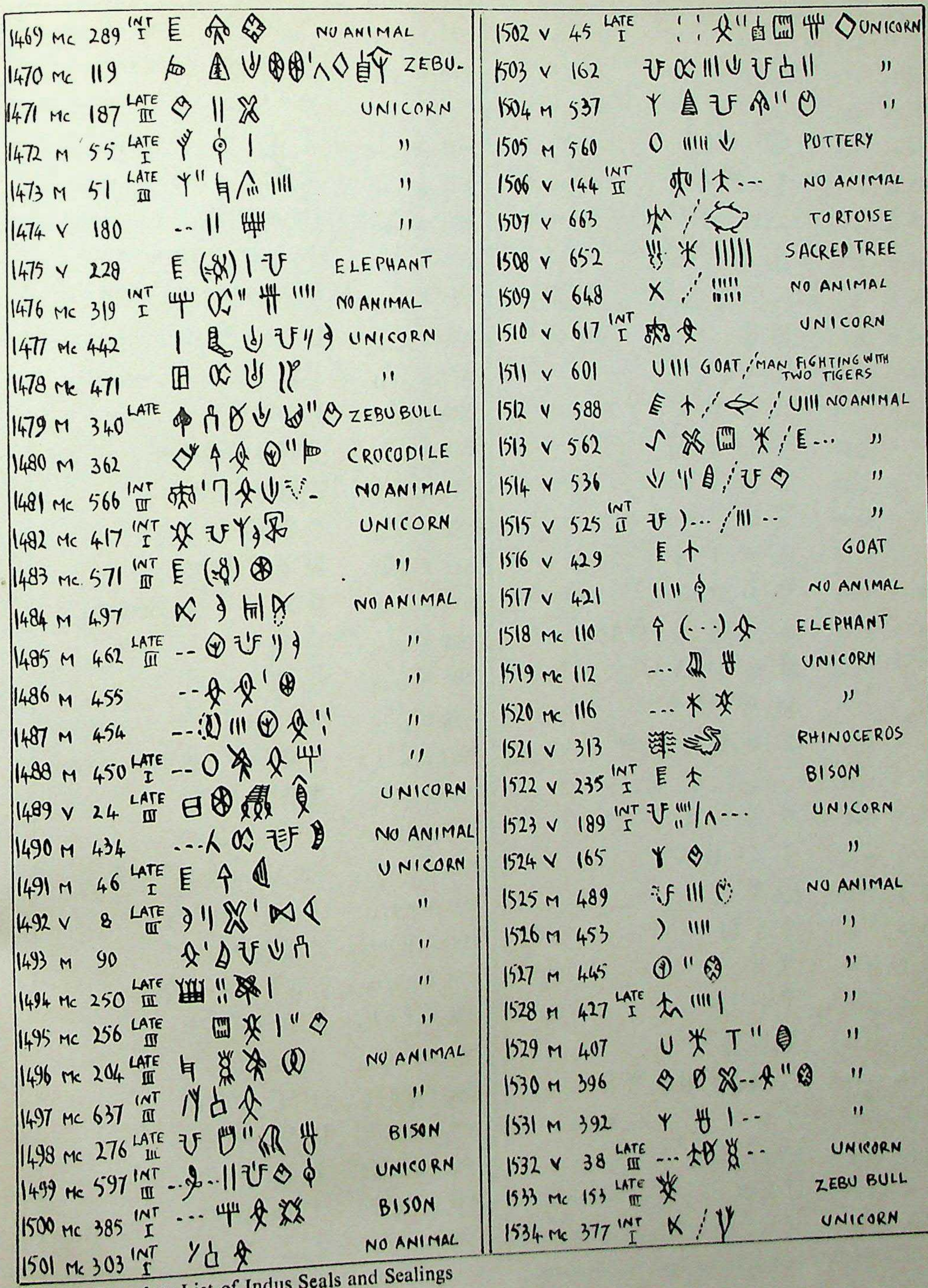
1337	Mc	530		UNICORN
1338	V	122		"
1339	M	7	INT I	ZEBU BULL
1340	Mc	657	EARLY	UNICORN
1341	M	220	LATE I	"
1342	M	270	LATE I	"
1343	M	281	LATE I	"
1344	M	361	LATE I	CROCODILE
1345	V	126		UNICORN
1346	V	77		"
1347	Mc	16		"
1348	Mc	179	LATE III	"
1349	Mc	155		ZEBU BULL
1350	M	37	LATE I	UNICORN
1351	M	303	LATE I	ZEBU BULL
1352	V	621		NO ANIMAL
1353	V	240	LATE	BUFFALO
1354	Mc	663	EARLY	"
1355	Mc	294	LATE III	UNICORN
1356	M	7		RHINOCEROS
1357	M	117		UNICORN
1358	Mc	421	INT I	"
1359	Mc	552	INT III	"
1360	Mc	431	INT I	ZEBU BULL
1361	Mc	154	LATE III	UNICORN
1362	M	465		NO ANIMAL
1363	V	346	LATE III	"
1364	V	358		"
1365	V	337	LATE I	CROCODILE & FISHES
1366	V	167		UNICORN
1367	Mc	665	EARLY	"
1368	Mc	404	INT I	"
1369	M	412	LATE I	NO ANIMAL
1370	Mc	140	LATE II	RHINOCEROS
1371	Mc	202	LATE III	UNICORN
1372	Mc	243	LATE III	"
1373	Mc	339	INT I	NO ANIMAL
1374	Mc	274	LATE III	UNICORN
1375	Mc	371	INT I	"
1376	Mc	389	INT I	"
1377	Mc	576	INT III	"
1378	Mc	577	INT III	"
1379	V	155		"
1380	Mc	623	INT III	"
1381	Mc	629	INT III	"
1382	Mc	696		BUFFALO
1383	Mc	697	EARLY	NO ANIMAL
1384	M	42		UNICORN
1385	M	74	LATE I	"
1386	M	78	LATE II	"
1387	M	127		"
1388	M	156	10'-13'	"
1389	M	183		"
1390	M	218		"
1391	M	334	LATE II	ZEBU BULL
1392	M	532	INT III	NO ANIMAL
1393	M	2		GOAT
1394	V	620	INT II	UNICORN
1395	V	268	LATE I	NO ANIMAL
1396	Mc	92		"
1397	M	21		"
1398	M	389		"
1399	M	338	LATE III	ZEBU BULL
1400	M	194		UNICORN
1401	Mc	422	INT II	"
1402	Mc	228	LATE III	NO ANIMAL

Fig. 104 Complete List of Indus Seals and Sealings



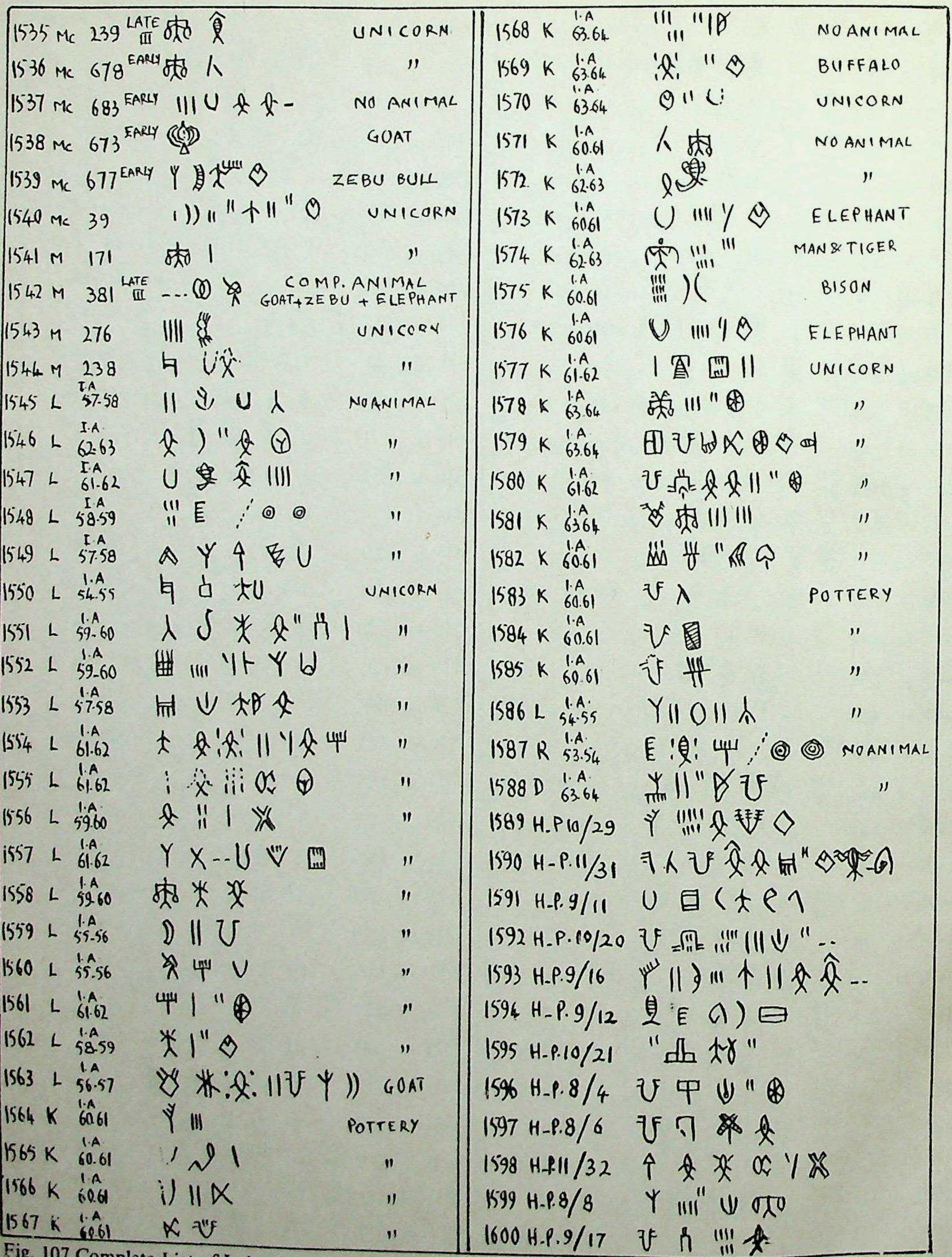
1403	Mc	66		UNICORN
1404	M	201		"
1405	M	130	LATE	"
1406	M	253		"
1407	Mc	617	INT III	"
1408	Mc	27		"
1409	Mc	615	INT III	ZEBU BULL
1410	M	54		UNICORN
1411	Mc	49		NO ANIMAL
1412	M	240		UNICORN
1413	V	701		"
1414	M	242		"
1415	M	542	LATE	BISUN
1416	Mc	423	INT I	"
1417	Mc	434	INT I	NO ANIMAL
1418	Mc	581	INT III	BISON
1419	Mc	601	INT III	UNICORN
1420	Mc	173	LATE III	"
1421	Mc	167	LATE III	"
1422	Mc	668	EARLY	"
1423	M	296	LATE	"
1424	V	502	INT II	NO ANIMAL
1425	Mc	669	EARLY	UNICORN
1426	Mc	700	EARLY	
1427	M	43		UNICORN
1428	M	45	LATE I	"
1429	M	59	LATE II	"
1430	M	61	10-13	"
1431	M	112		"
1432	M	135		"
1433	M	190	LATE I	"
1434	M	204	LATE I	"
1435	M	203		"
1436	M	202		UNICORN
1437	M	206		"
1438	M	163		"
1439	M	219	LATE I	
1440	Mc	248 & 236		NO ANIMAL
1441	M	185	LATE I	UNICORN
1442	V	340		NO ANIMAL
1443	V	319		GOD WITH HORNS
1444	V	327	LATE I	SOMA PLANT
1445	V	353		NO ANIMAL
1446	V	354		"
1447	V	359		"
1448	V	140		UNICORN
1449	V	686		NO ANIMAL
1450	V	699		"
1451	V	675		"
1452	V	656		"
1453	V	439		"
1454	V	472		"
1455	V	474	INT III	"
1456	V	479		"
1457	V	489		"
1458	V	503	INT III	"
1458	V	506	INT III	"
1460	V	678	INT III	"
1461	V	623	LATE III	FRAGMENT OF COMP. ANIMAL
1462	Mc	437		NO ANIMAL
1463	V	412		"
1464	V	407	INT II	"
1465	V	377	INT II	"
1466	V	135		UNICORN
1467	V	647		NO ANIMAL
1468	Mc	114		UNICORN

Fig. 105 Complete List of Indus Seals and Sealings



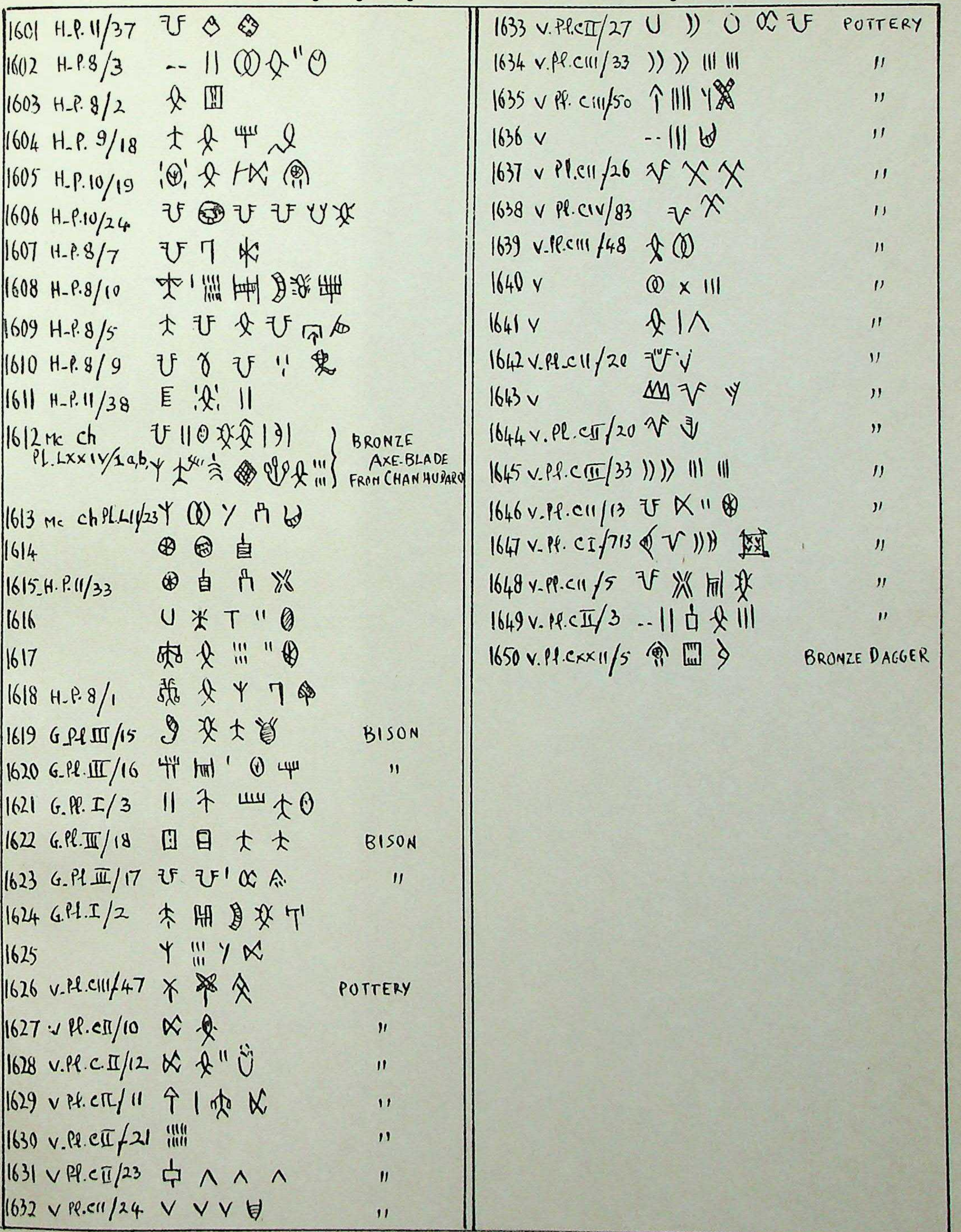
1469	Mc	289	INT I	NO ANIMAL
1470	Mc	119		ZEBU.
1471	Mc	187	LATE III	UNICORN
1472	M	55	LATE I	"
1473	M	51	LATE III	"
1474	V	180		"
1475	V	228		ELEPHANT
1476	Mc	319	INT I	NO ANIMAL
1477	Mc	442		UNICORN
1478	Mc	471		"
1479	M	340	LATE	ZEBU BULL
1480	M	362		CROCODILE
1481	Mc	566	INT III	NO ANIMAL
1482	Mc	417	INT I	UNICORN
1483	Mc.	571	INT III	"
1484	M	497		NO ANIMAL
1485	M	462	LATE III	"
1486	M	455		"
1487	M	454		"
1488	M	450	LATE I	"
1489	V	24	LATE III	UNICORN
1490	M	434		NO ANIMAL
1491	M	46	LATE I	UNICORN
1492	V	8	LATE III	"
1493	M	90		"
1494	Mc	250	LATE III	"
1495	Mc	256	LATE III	"
1496	Mc	204	LATE III	NO ANIMAL
1497	Mc	637	INT III	"
1498	Mc	276	LATE III	BISON
1499	Mc	597	INT III	UNICORN
1500	Mc	385	INT I	BISON
1501	Mc	303	INT I	NO ANIMAL
1502	V	45	LATE I	UNICORN
1503	V	162		"
1504	M	537		"
1505	M	560		POTTERY
1506	V	144	INT II	NO ANIMAL
1507	V	663		TORTOISE
1508	V	652		SACRED TREE
1509	V	648		NO ANIMAL
1510	V	617	INT I	UNICORN
1511	V	601		GOAT, MAN FIGHTING WITH TWO TIGERS
1512	V	588		NO ANIMAL
1513	V	562		"
1514	V	536		"
1515	V	525	INT II	"
1516	V	429		GOAT
1517	V	421		NO ANIMAL
1518	Mc	110		ELEPHANT
1519	Mc	112		UNICORN
1520	Mc	116		"
1521	V	313		RHINOCEROS
1522	V	235	INT I	BISON
1523	V	189	INT I	UNICORN
1524	V	165		"
1525	M	489		NO ANIMAL
1526	M	453		"
1527	M	445		"
1528	M	427	LATE I	"
1529	M	407		"
1530	M	396		"
1531	M	392		"
1532	V	38	LATE III	UNICORN
1533	Mc	153	LATE III	ZEBU BULL
1534	Mc	377	INT I	UNICORN

Fig. 106 Complete List of Indus Seals and Sealings



1535	Mc	239	LATE III	UNICORN
1536	Mc	678	EARLY	"
1537	Mc	683	EARLY	NO ANIMAL
1538	Mc	673	EARLY	GOAT
1539	Mc	677	EARLY	ZEBU BULL
1540	Mc	39		UNICORN
1541	M	171		"
1542	M	381	LATE III	COMP. ANIMAL GOAT + ZEBU + ELEPHANT
1543	M	276		UNICORN
1544	M	238		"
1545	L	I.A 57-58		NO ANIMAL
1546	L	I.A 62-63		"
1547	L	I.A 61-62		"
1548	L	I.A 58-59		"
1549	L	I.A 57-58		"
1550	L	I.A 54-55		UNICORN
1551	L	I.A 59-60		"
1552	L	I.A 59-60		"
1553	L	I.A 57-58		"
1554	L	I.A 61-62		"
1555	L	I.A 61-62		"
1556	L	I.A 59-60		"
1557	L	I.A 61-62		"
1558	L	I.A 59-60		"
1559	L	I.A 55-56		"
1560	L	I.A 55-56		"
1561	L	I.A 61-62		"
1562	L	I.A 58-59		"
1563	L	I.A 56-57		GOAT
1564	K	I.A 60-61		POTTERY
1565	K	I.A 60-61		"
1566	K	I.A 60-61		"
1567	K	I.A 60-61		"
1568	K	I.A 63-64		NO ANIMAL
1569	K	I.A 63-64		BUFFALO
1570	K	I.A 63-64		UNICORN
1571	K	I.A 60-61		NO ANIMAL
1572	K	I.A 62-63		"
1573	K	I.A 60-61		ELEPHANT
1574	K	I.A 62-63		MAN & TIGER
1575	K	I.A 60-61		BISON
1576	K	I.A 60-61		ELEPHANT
1577	K	I.A 61-62		UNICORN
1578	K	I.A 63-64		"
1579	K	I.A 63-64		"
1580	K	I.A 61-62		"
1581	K	I.A 63-64		"
1582	K	I.A 60-61		"
1583	K	I.A 60-61		POTTERY
1584	K	I.A 60-61		"
1585	K	I.A 60-61		"
1586	L	I.A 54-55		"
1587	R	I.A 53-54		NO ANIMAL
1588	D	I.A 63-64		"
1589	H.P 10/29			
1590	H-P. 11/31			
1591	H-P. 9/11			
1592	H-P. 10/20			
1593	H-P. 9/16			
1594	H-P. 9/12			
1595	H-P. 10/21			
1596	H-P. 8/4			
1597	H-P. 8/6			
1598	H-P. 11/32			
1599	H-P. 8/8			
1600	H.P. 9/17			

Fig. 107 Complete List of Indus Seals and Sealings



1601	H.P. 11/37	
1602	H.P. 8/3	
1603	H.P. 8/2	
1604	H.P. 9/18	
1605	H.P. 10/19	
1606	H.P. 10/24	
1607	H.P. 8/7	
1608	H.P. 8/10	
1609	H.P. 8/5	
1610	H.P. 8/9	
1611	H.P. 11/38	
1612	Mc Ch Pl. LXXIV/1a,b,	BRONZE AXE-BLADE FROM CHANHUDARO
1613	Mc Ch Pl. LI/23	
1614		
1615	H.P. 11/33	
1616		
1617		
1618	H.P. 8/1	
1619	G Pl. III/15	BISON
1620	G. Pl. III/16	"
1621	G. Pl. I/3	
1622	G. Pl. III/18	BISON
1623	G. Pl. III/17	"
1624	G. Pl. I/2	
1625		
1626	V. Pl. CIII/47	POTTERY
1627	V Pl. CII/10	"
1628	V. Pl. C.II/12	"
1629	V Pl. CII/11	"
1630	V. Pl. CII/21	"
1631	V Pl. CII/23	"
1632	V Pl. CII/24	"
1633	V. Pl. CII/27	POTTERY
1634	V. Pl. CIII/33	"
1635	V Pl. CIII/50	"
1636	V	"
1637	V Pl. CII/26	"
1638	V Pl. CIV/83	"
1639	V. Pl. CIII/48	"
1640	V	"
1641	V	"
1642	V. Pl. CII/20	"
1643	V	"
1644	V. Pl. CII/20	"
1645	V. Pl. CIII/33	"
1646	V. Pl. CII/13	"
1647	V. Pl. CI/713	"
1648	V. Pl. CII/5	"
1649	V. Pl. CII/3	"
1650	V. Pl. CXXII/5	BRONZE DAGGER

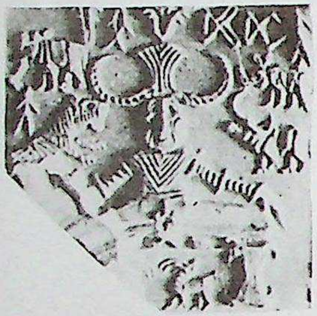
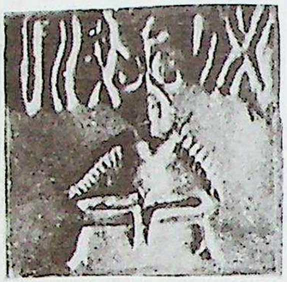
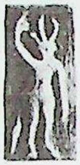
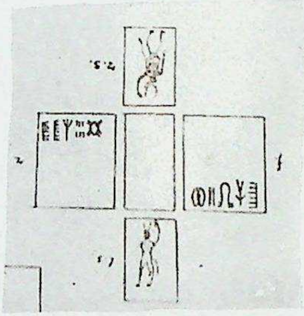
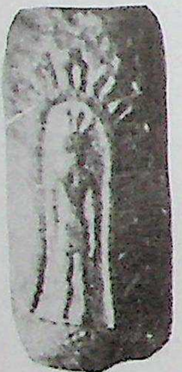
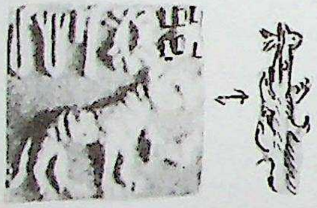
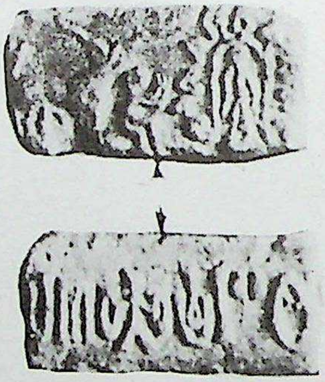
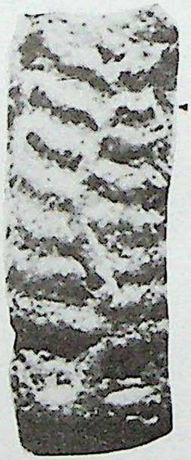
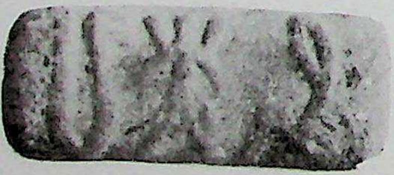
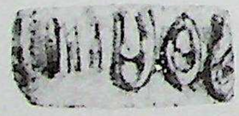
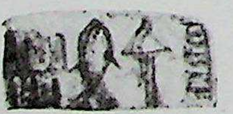
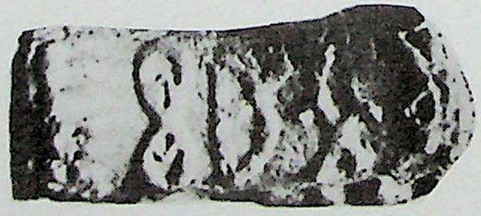
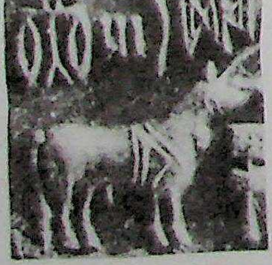
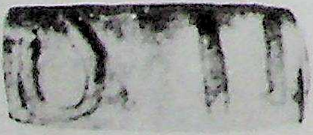
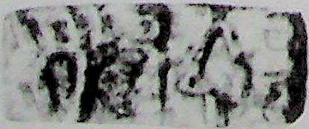
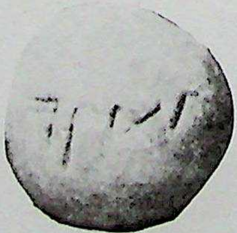
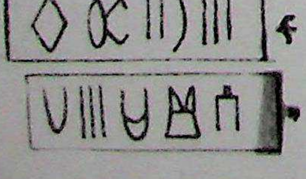
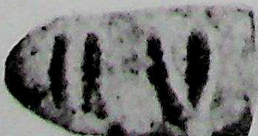
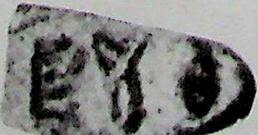
Fig. 108 Complete List of Indus Seals and Sealings

Plates

I–XI Photographs of the Selected Seals and Sealings.

XII–XXIII Drawings of the Seals and Sealings.

Pl. I

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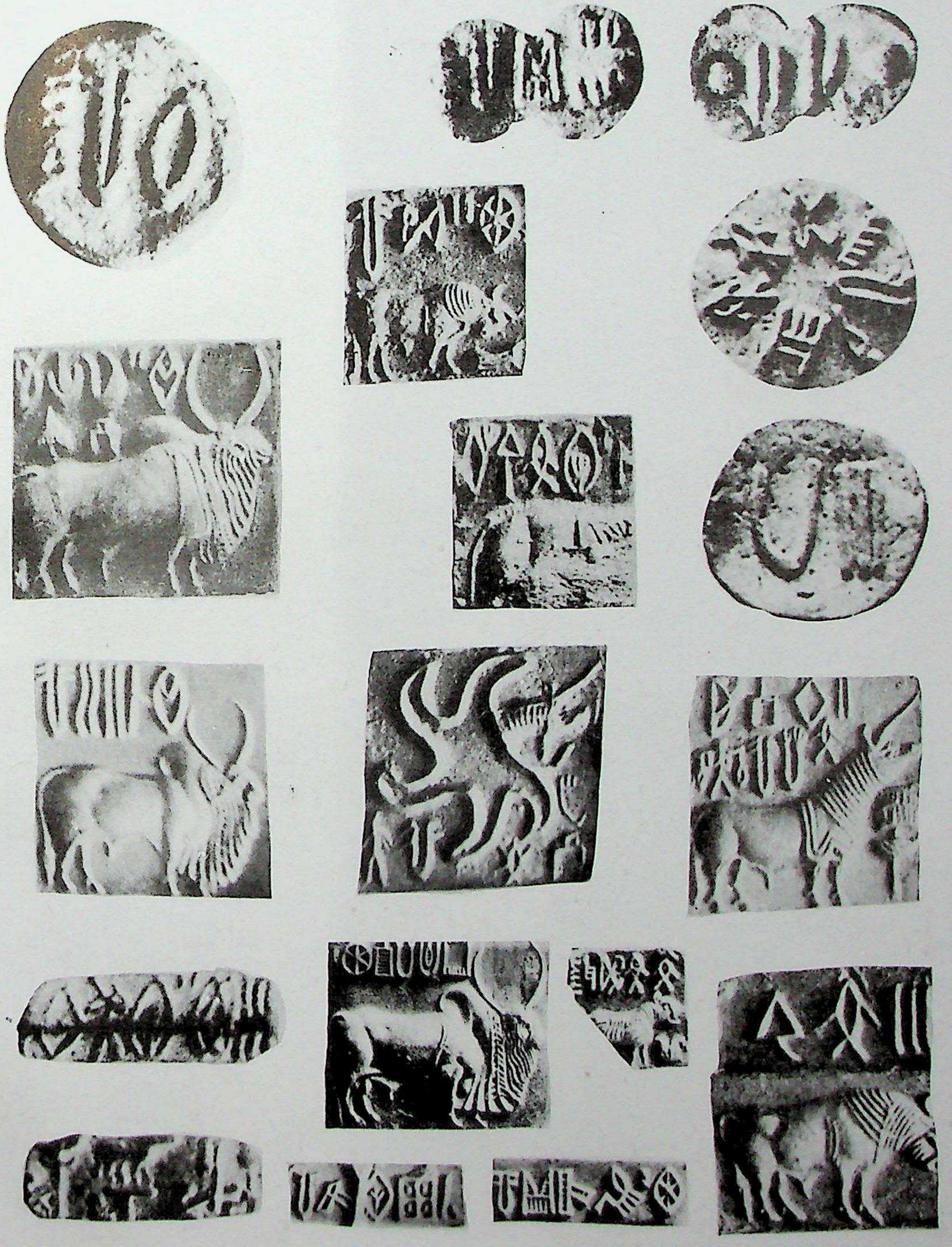

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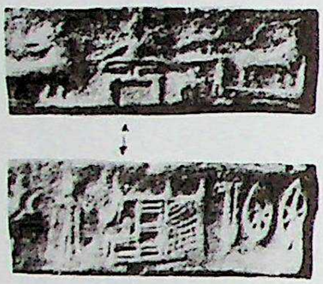
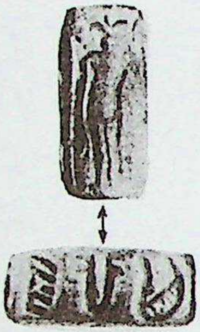
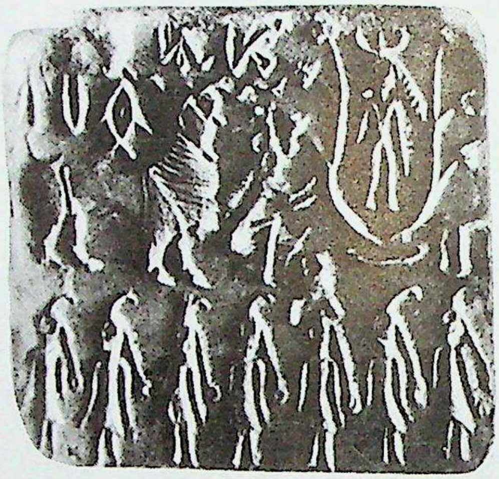
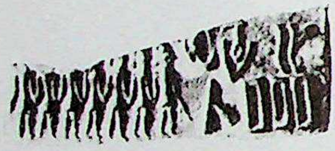
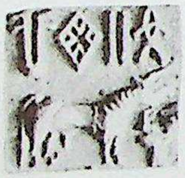
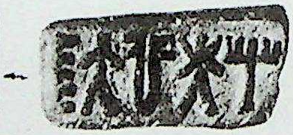


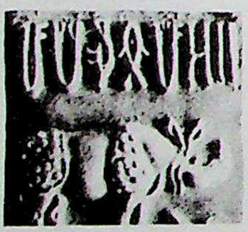


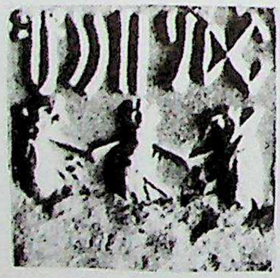


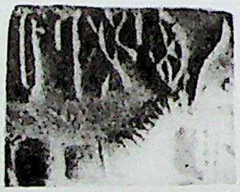


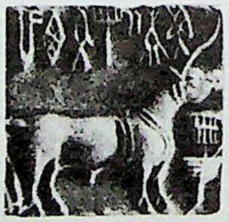


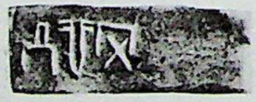


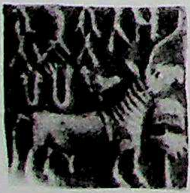


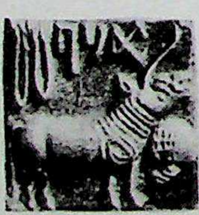


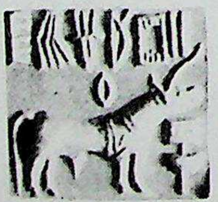


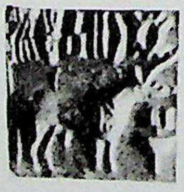


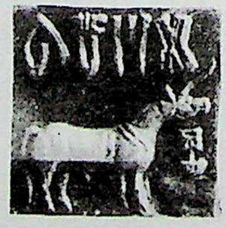


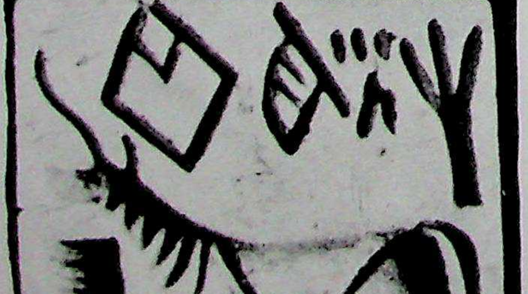


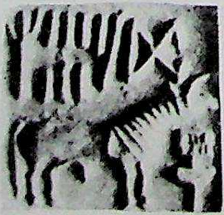


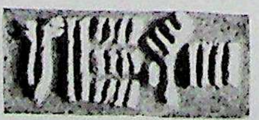


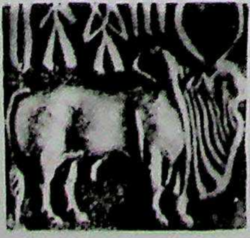


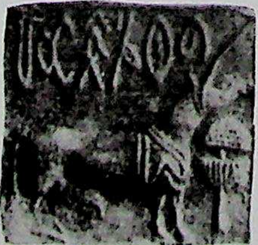




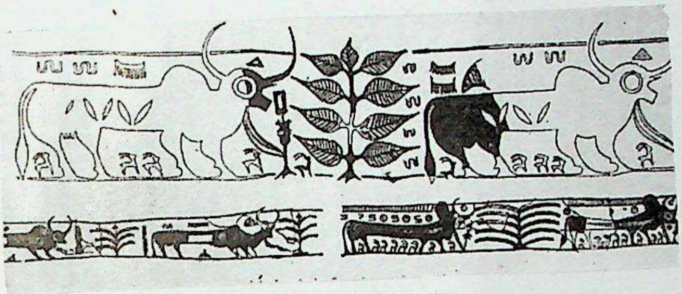


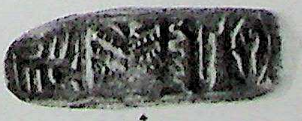




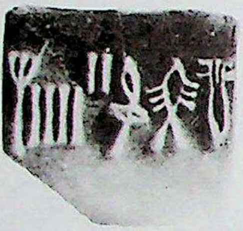
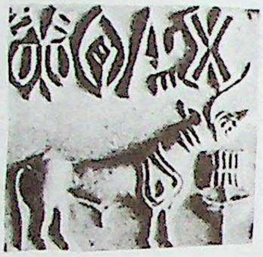
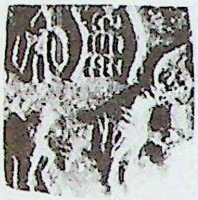
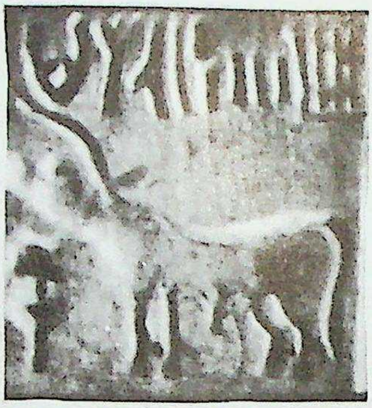
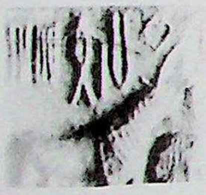
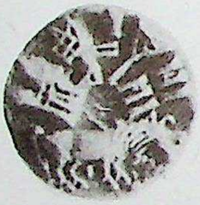
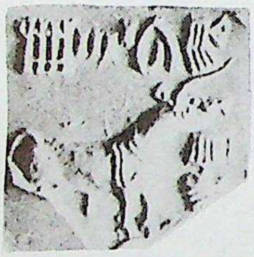
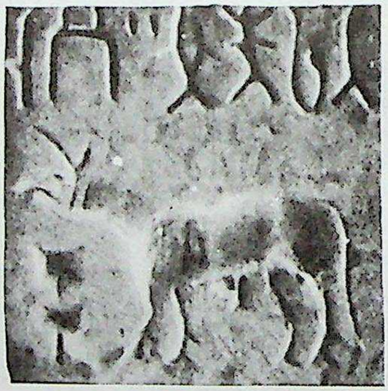
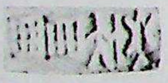
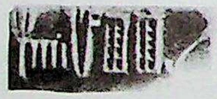
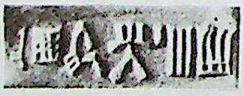
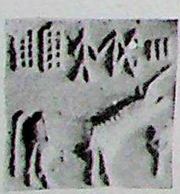
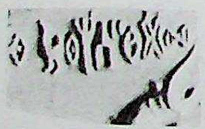
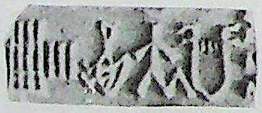
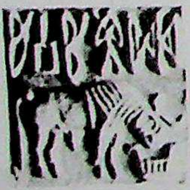
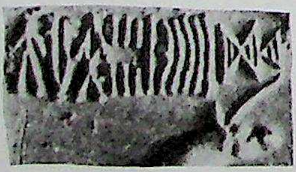
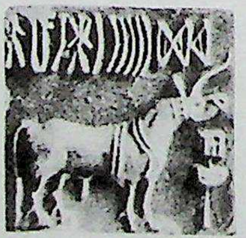
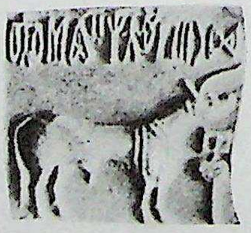
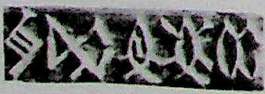
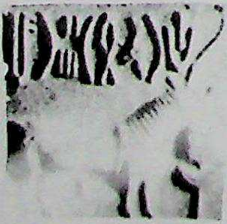
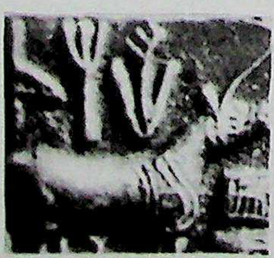
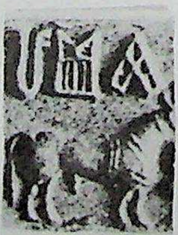
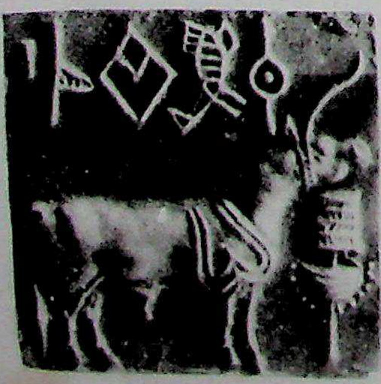
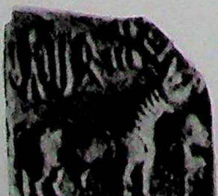
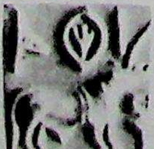
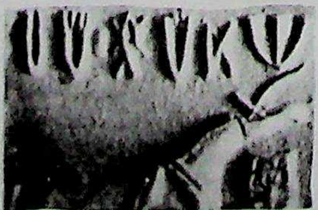


F2 IV

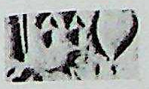




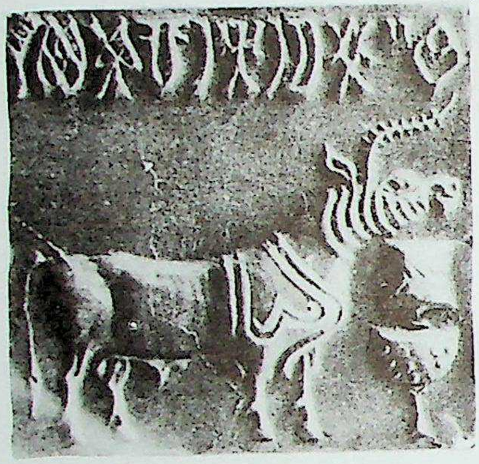
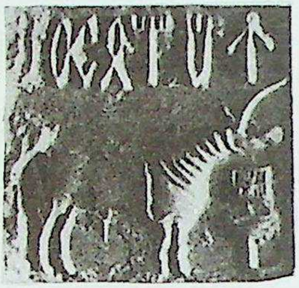
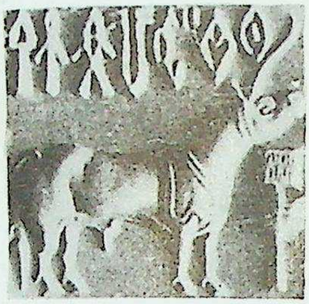
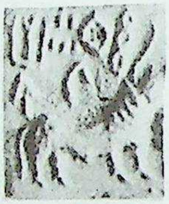
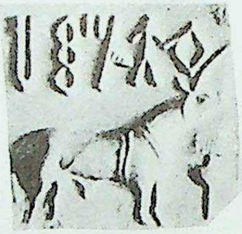
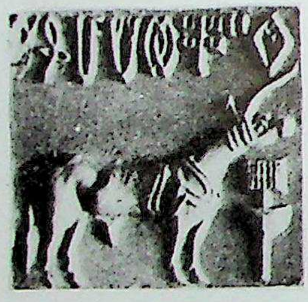
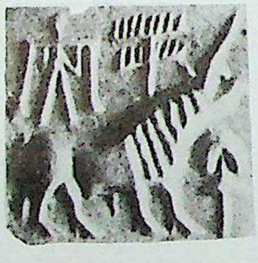
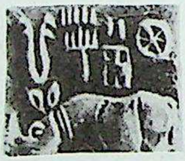
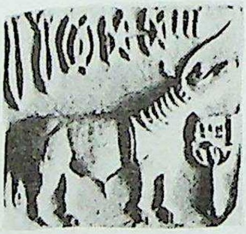
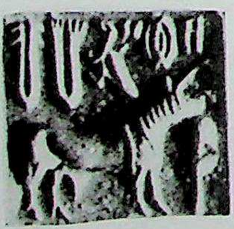
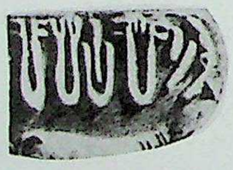
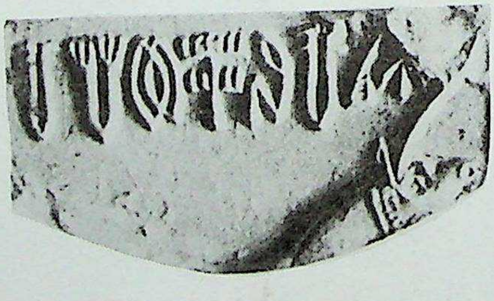
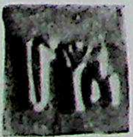
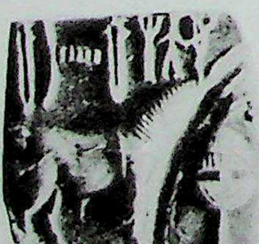
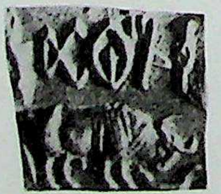
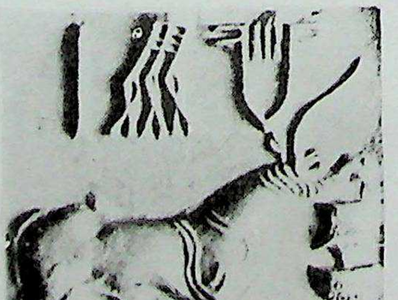
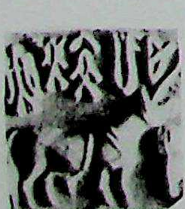
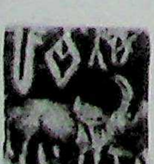
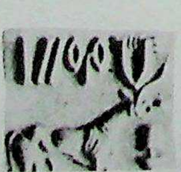
Pl. V

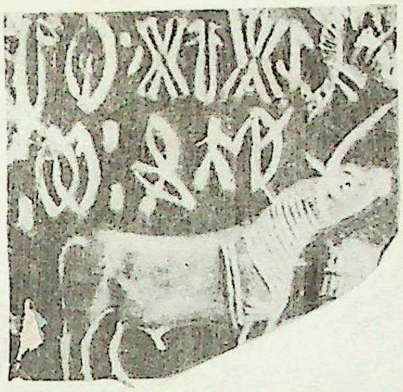
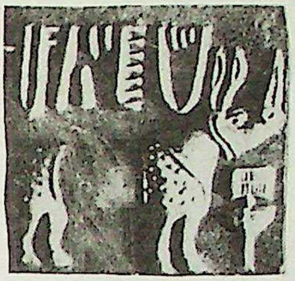
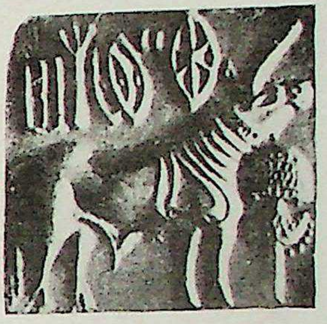
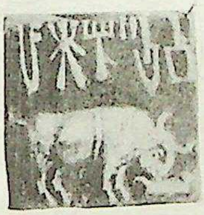
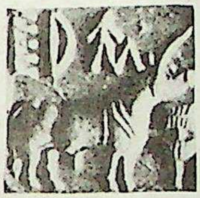
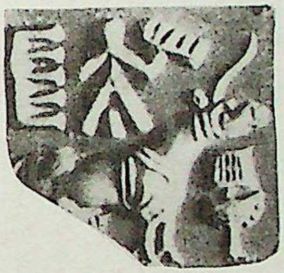
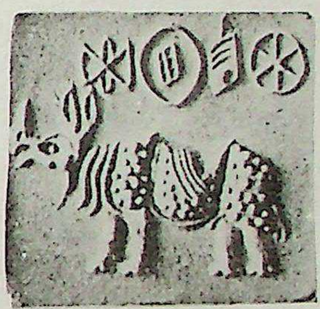
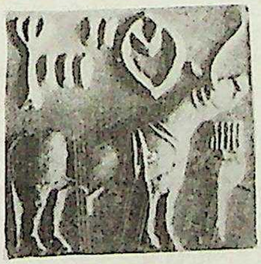
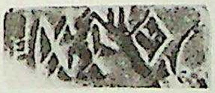
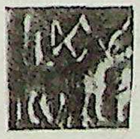
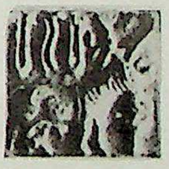
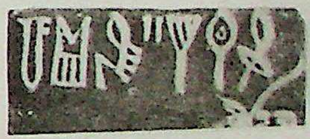
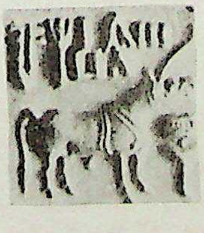
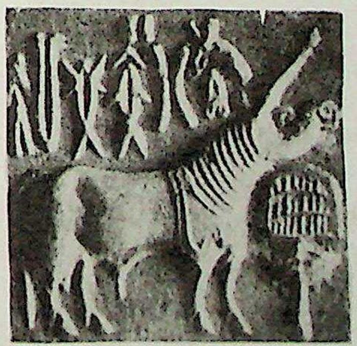
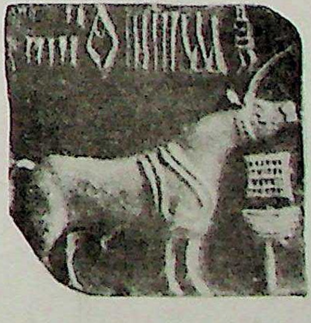
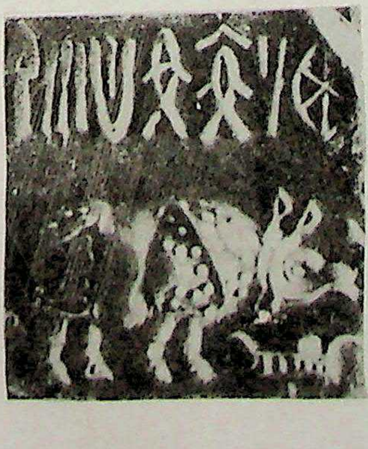
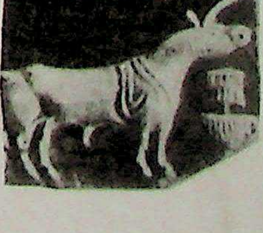
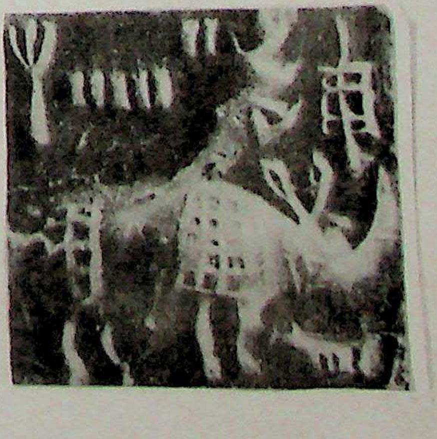
Pe. VI



Pl. VII

Pl. VIII

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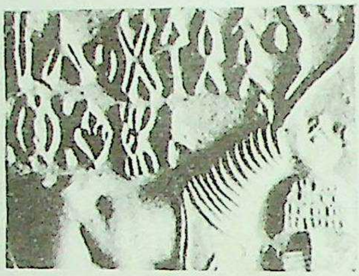

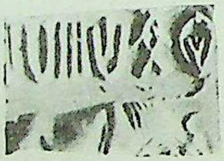

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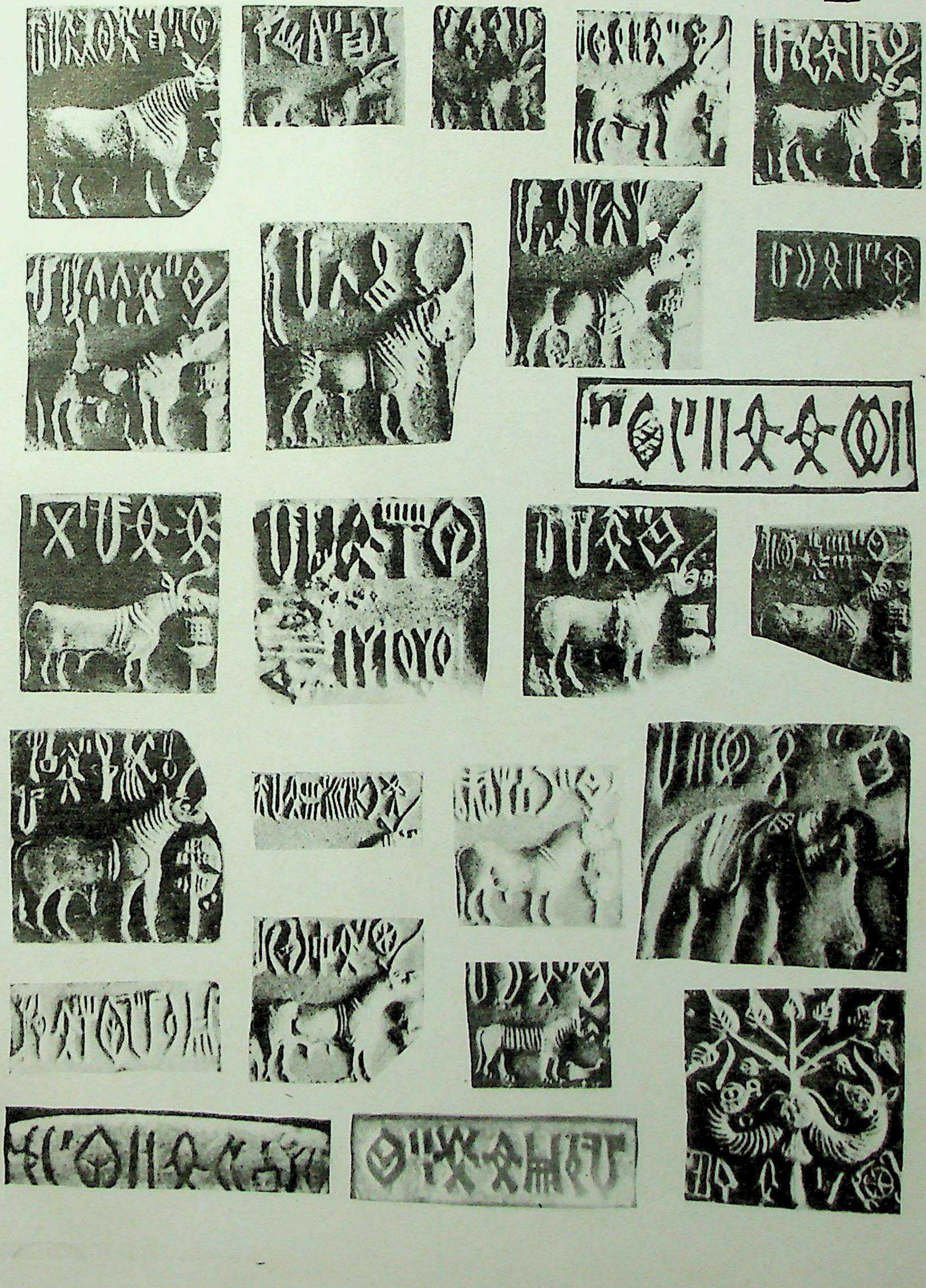

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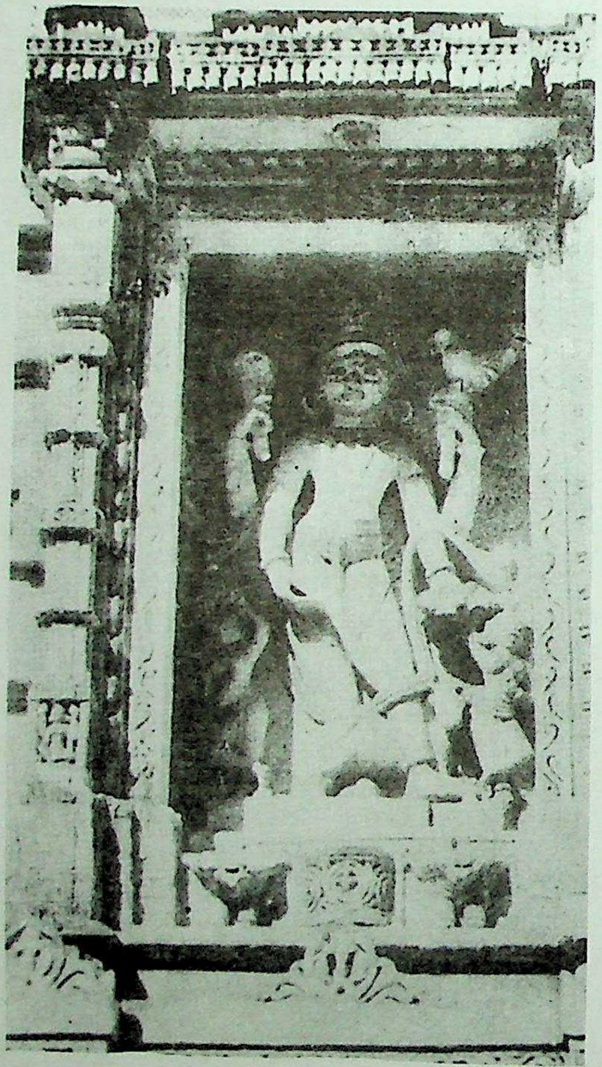

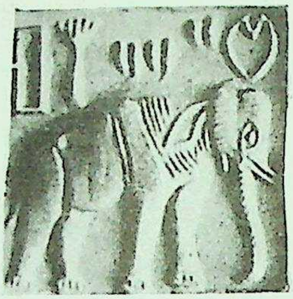

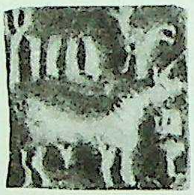

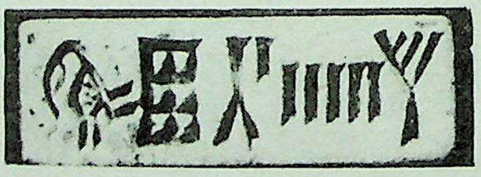

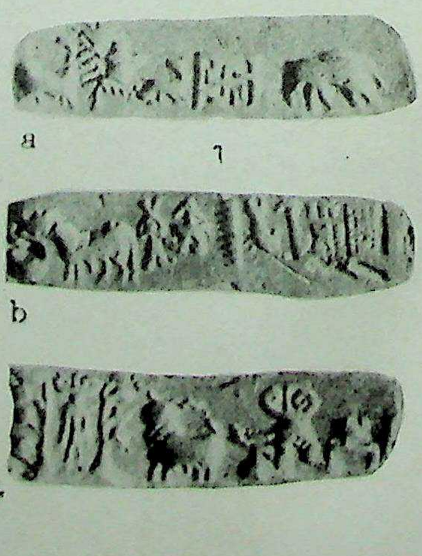
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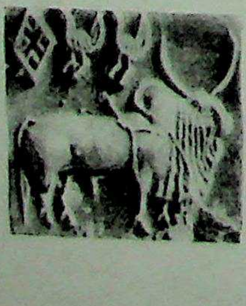

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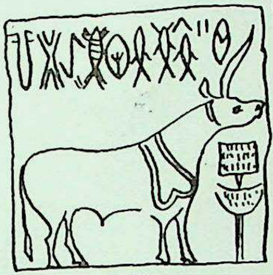
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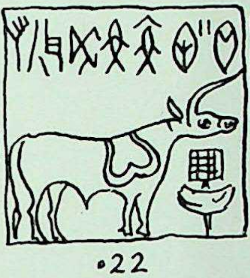
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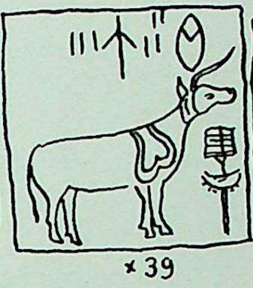
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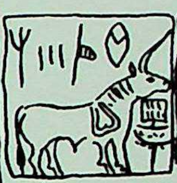
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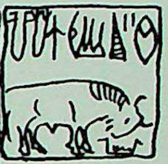
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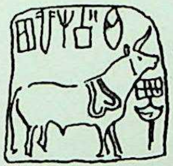
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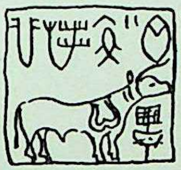
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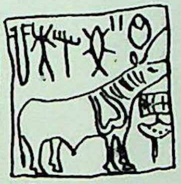
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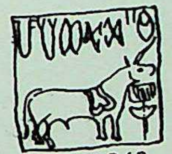
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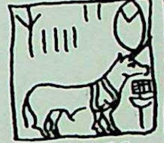
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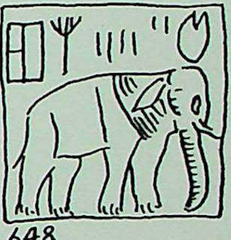
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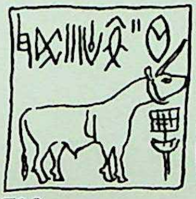
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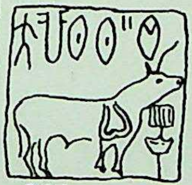
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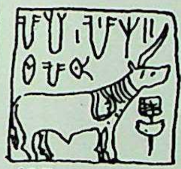
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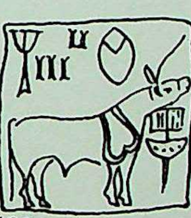
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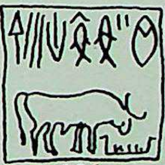
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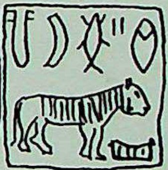
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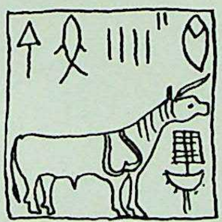
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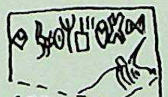
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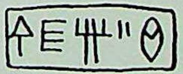
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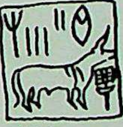
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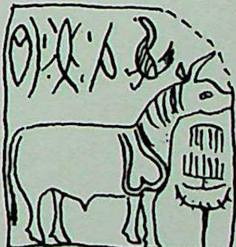
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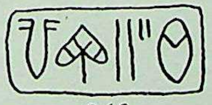
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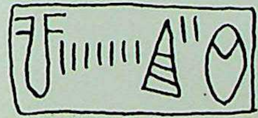
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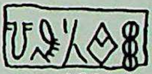
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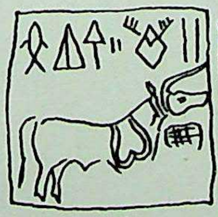
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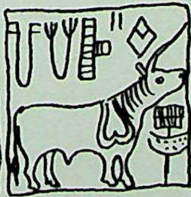
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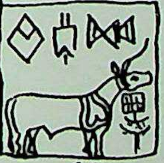
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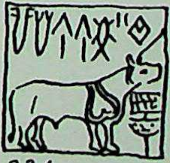
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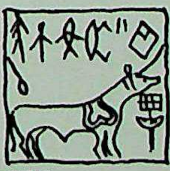
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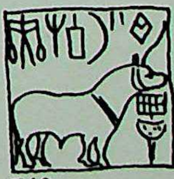
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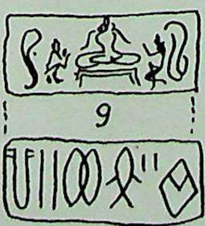
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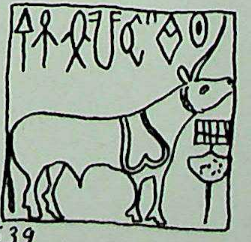
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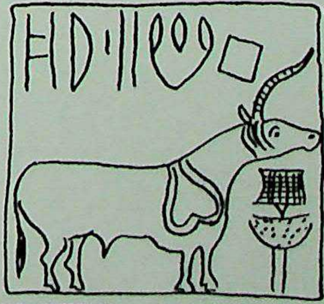
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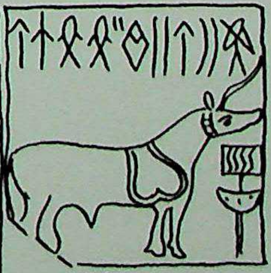
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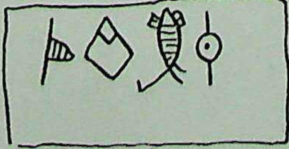
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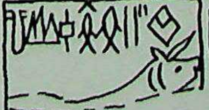
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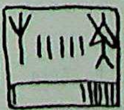
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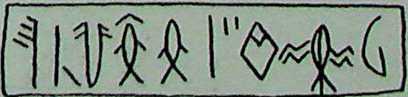
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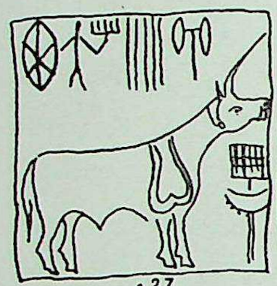
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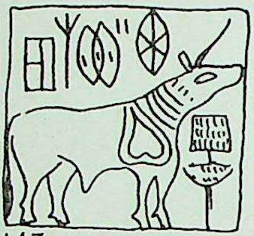
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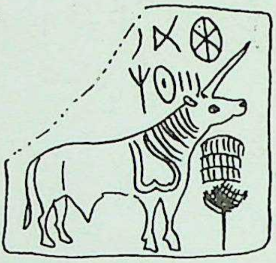
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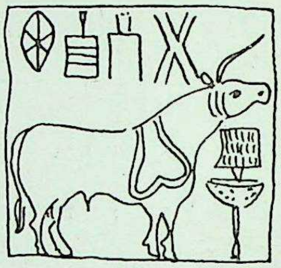
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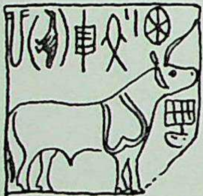
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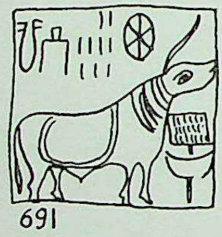
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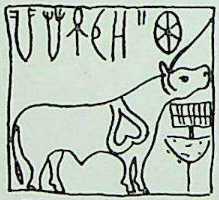
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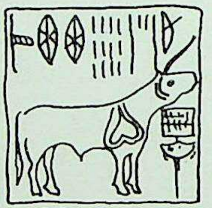
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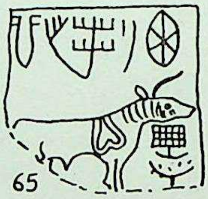
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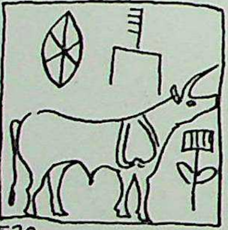
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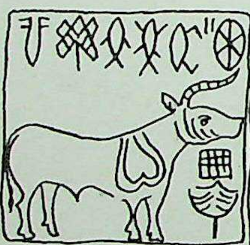
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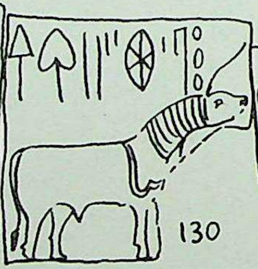
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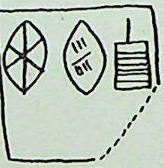
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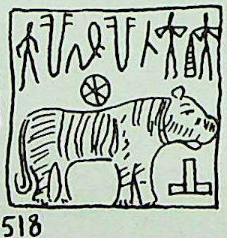
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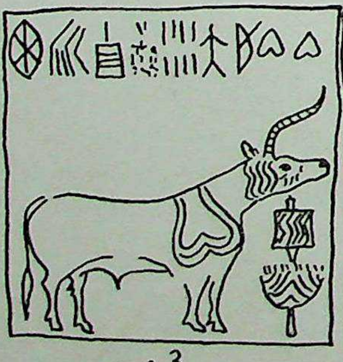
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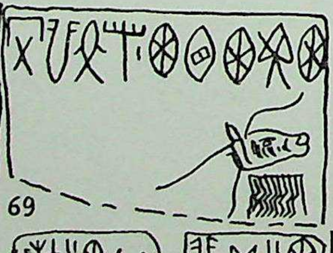
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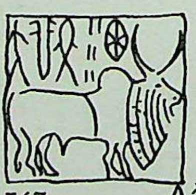
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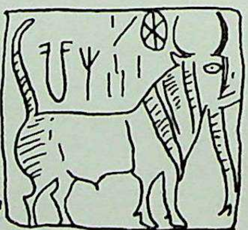
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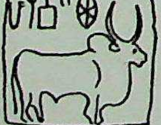
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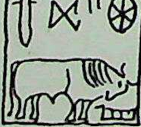
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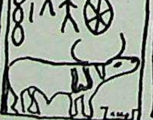
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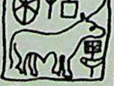
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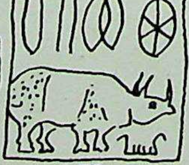
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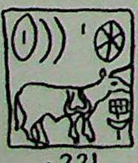
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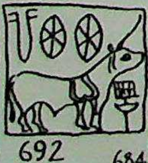
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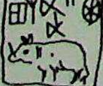
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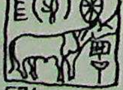
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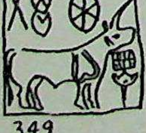
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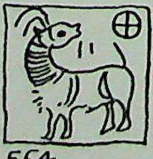
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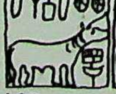
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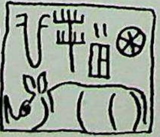
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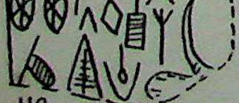
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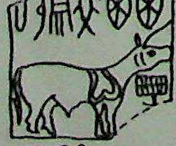
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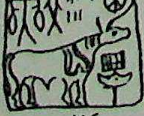
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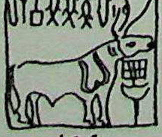
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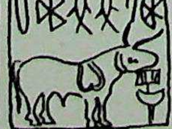
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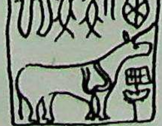
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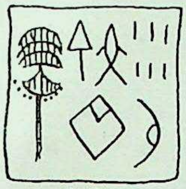
Pl. XIV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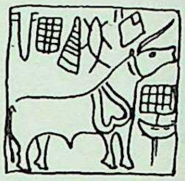
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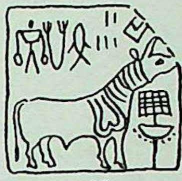
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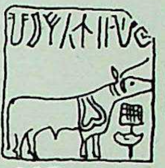
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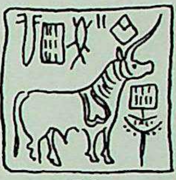
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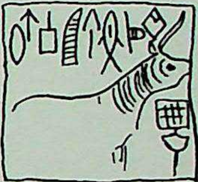
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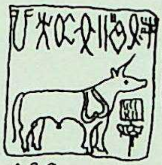
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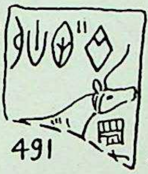
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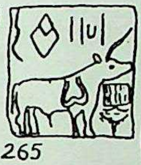
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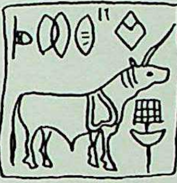
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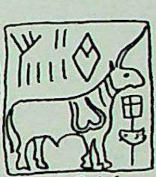
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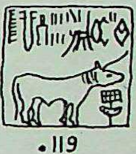
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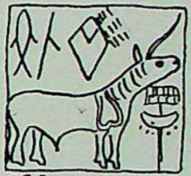
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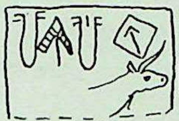
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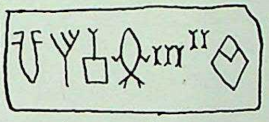
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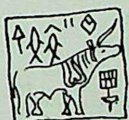
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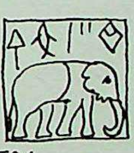
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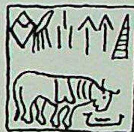
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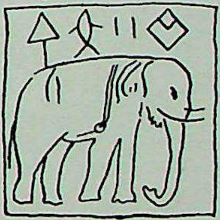
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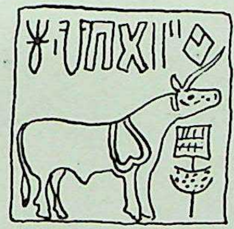
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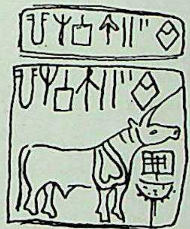
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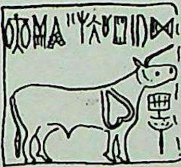
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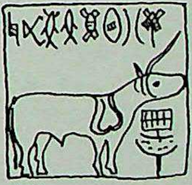
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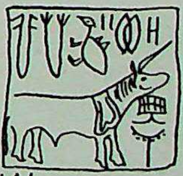
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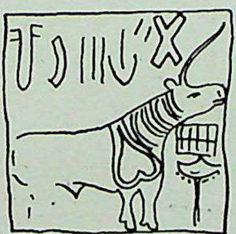
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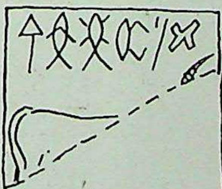
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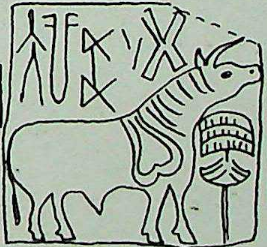
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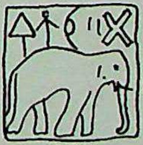
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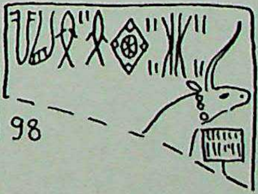
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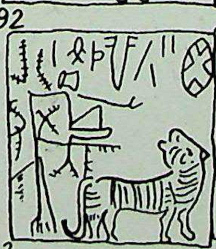
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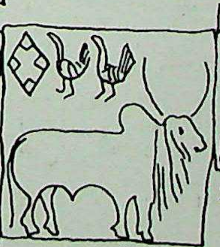
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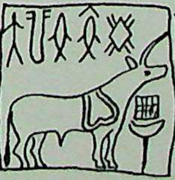
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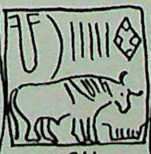
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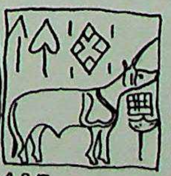
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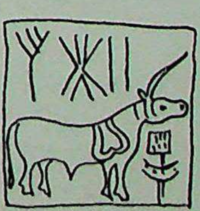
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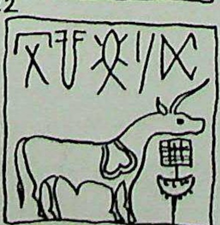
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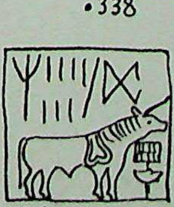
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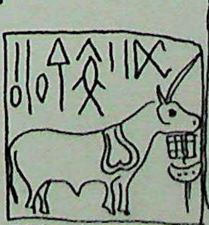
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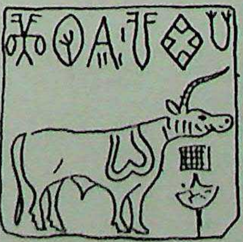
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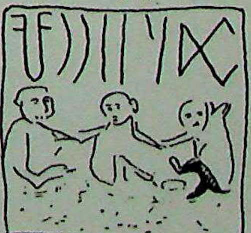
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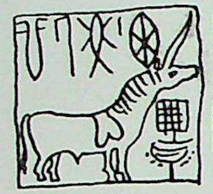
Pl. XV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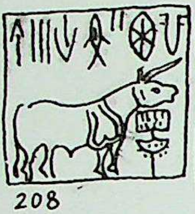
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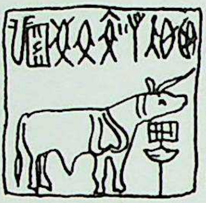

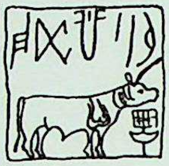
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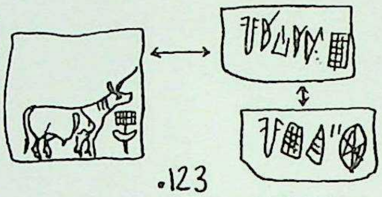
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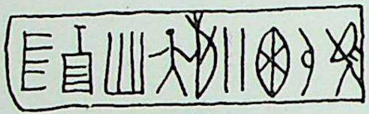
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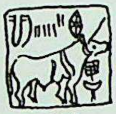
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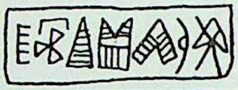
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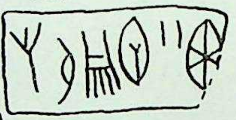
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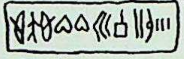
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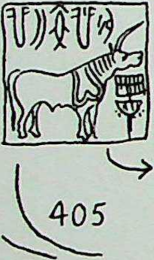
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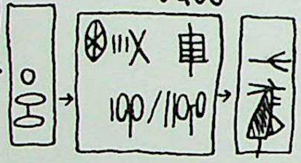

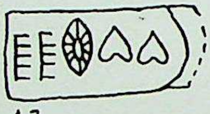
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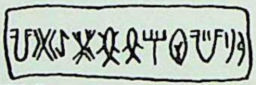
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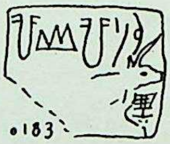
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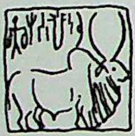
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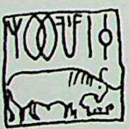
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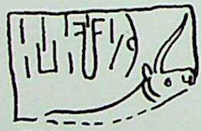
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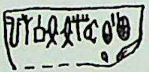
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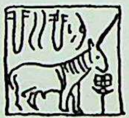
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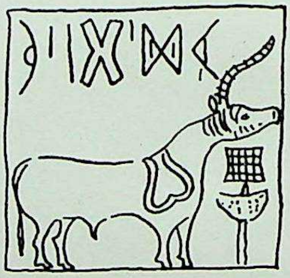
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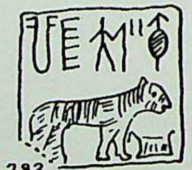
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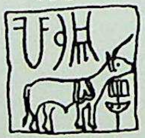
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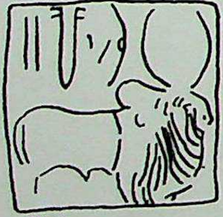
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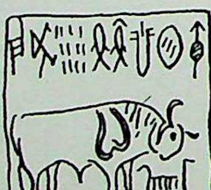
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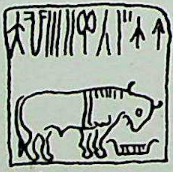
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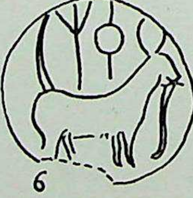
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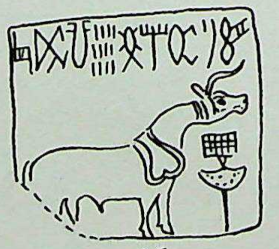
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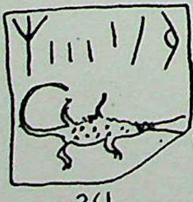
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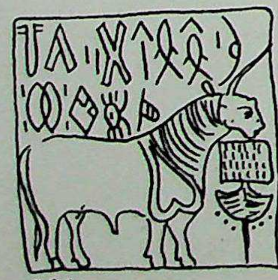
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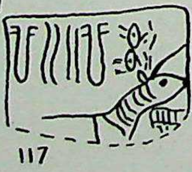
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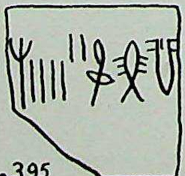
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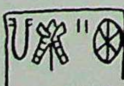
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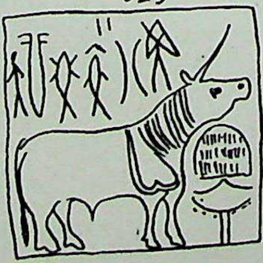
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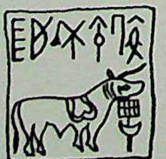
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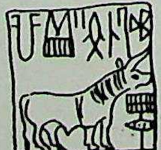
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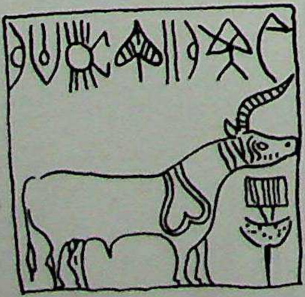
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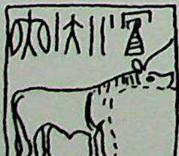

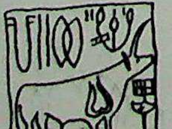
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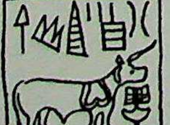
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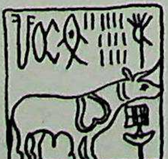
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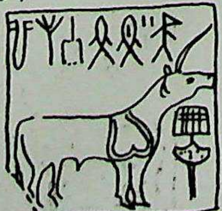
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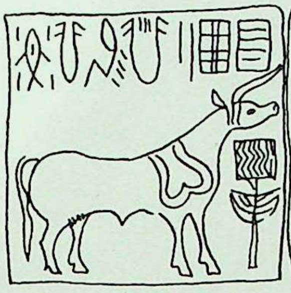
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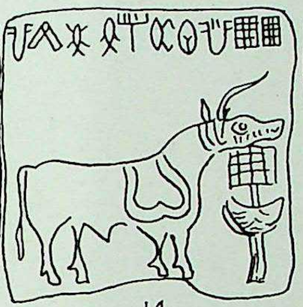
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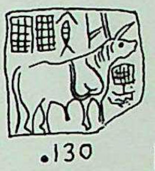
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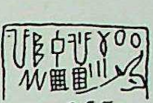
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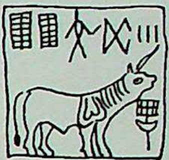
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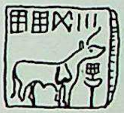
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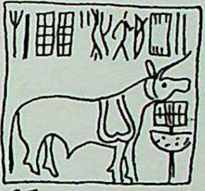
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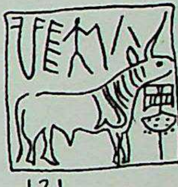
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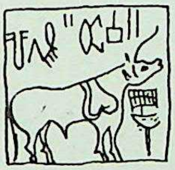
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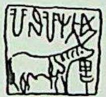
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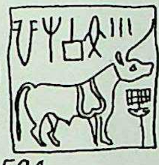
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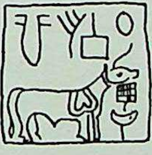

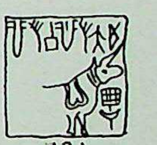
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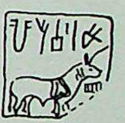
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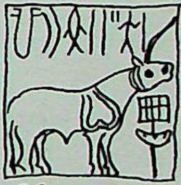
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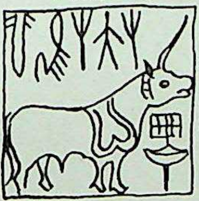
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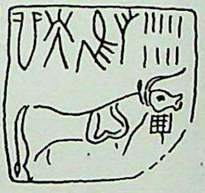
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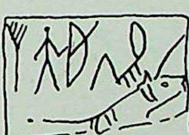
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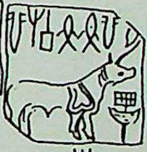
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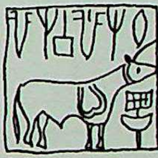
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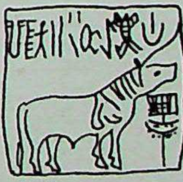
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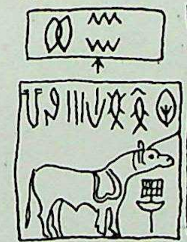
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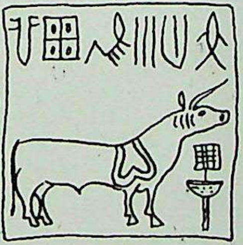
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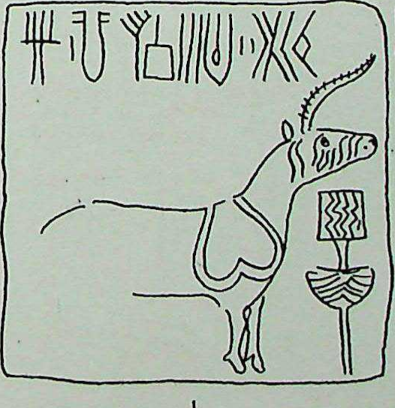
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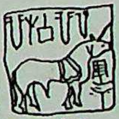
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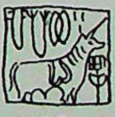
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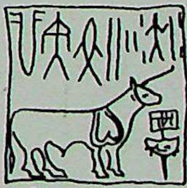
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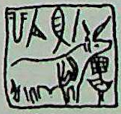
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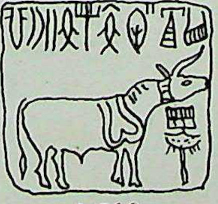
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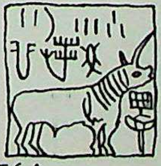
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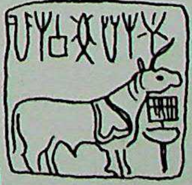
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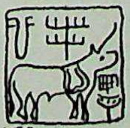
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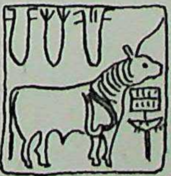
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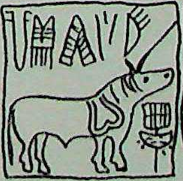
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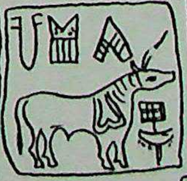
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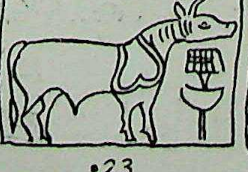
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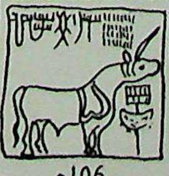
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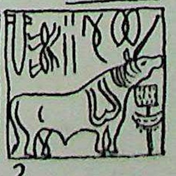
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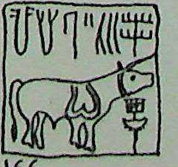
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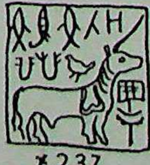
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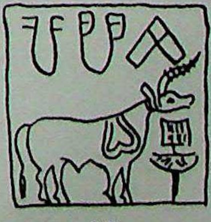
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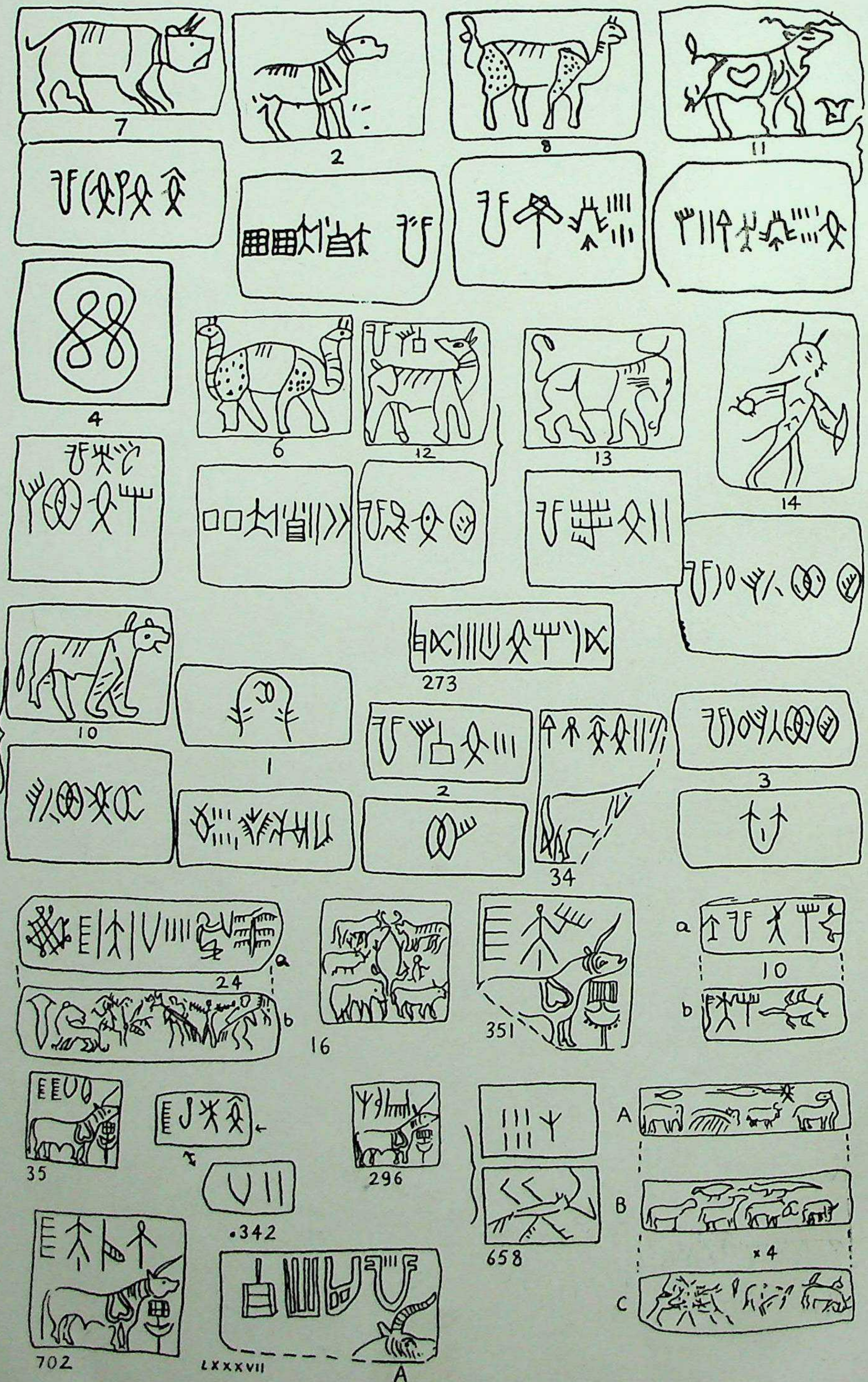
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702
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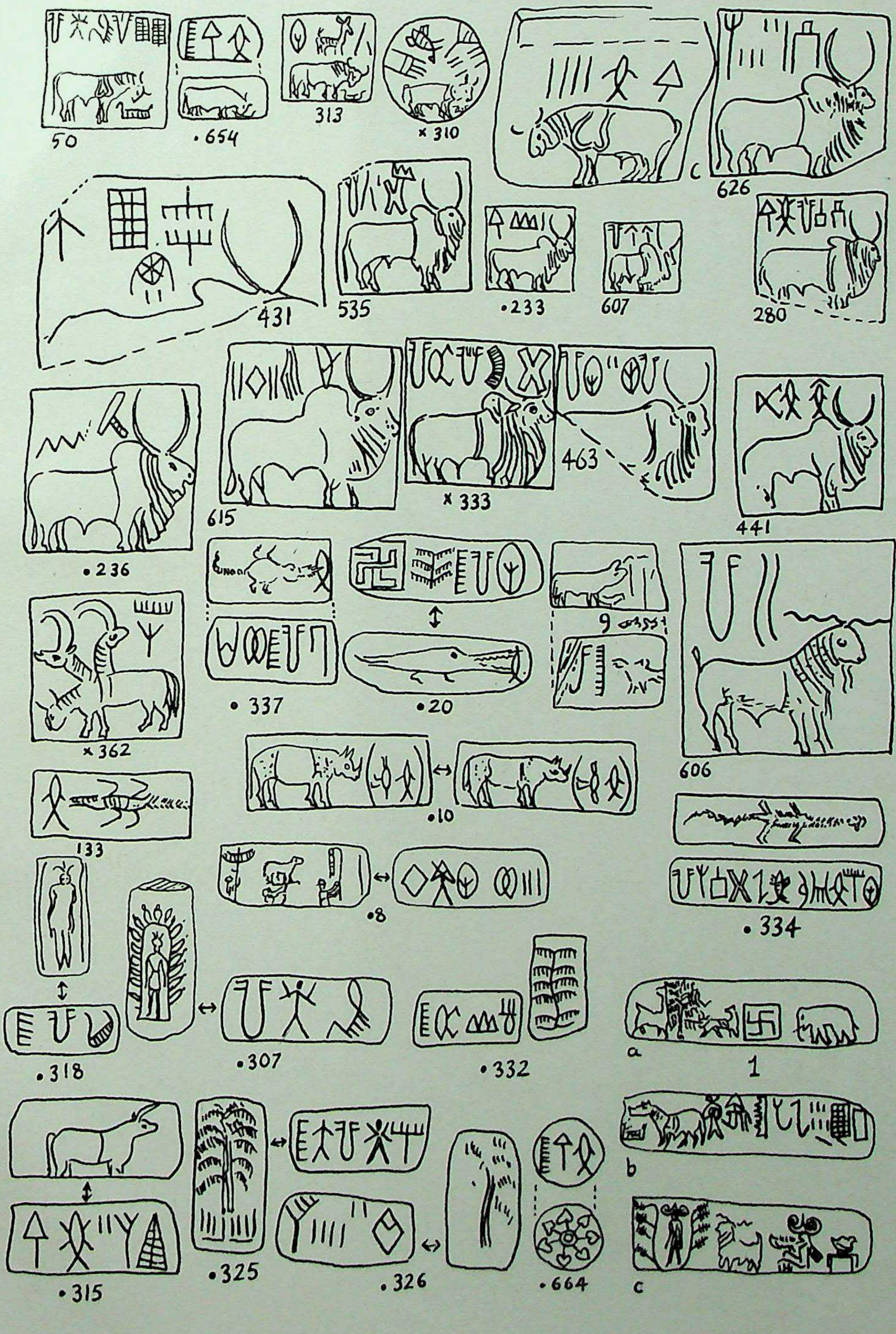
C

Pl. XVIII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c
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280
615
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441
•236
•337
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9
606
×362
•10
133
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•307
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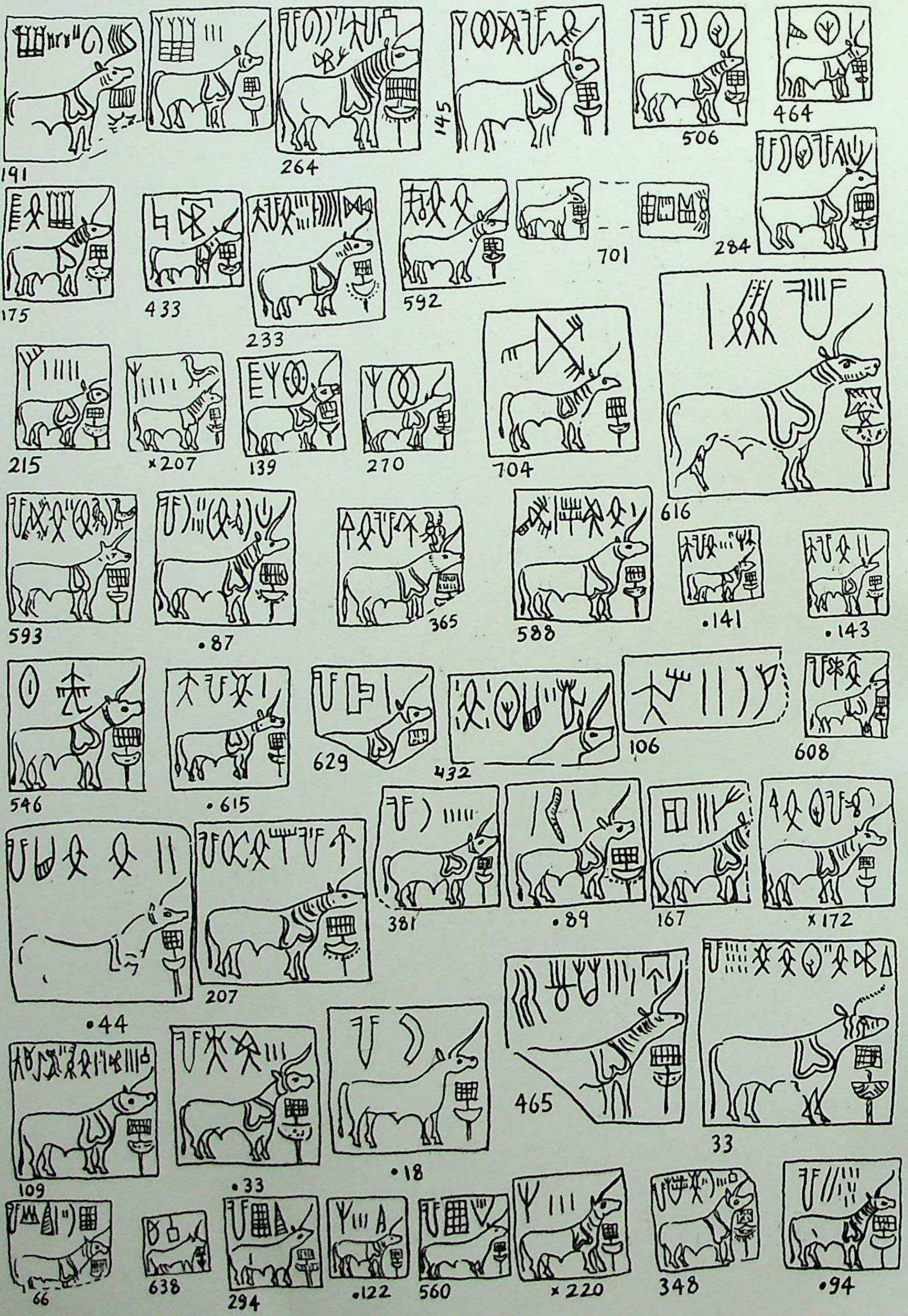
a
1
b
•315
•325
•326
•664
c

Pl. XIX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•143
546
•615
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432
106
608
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560
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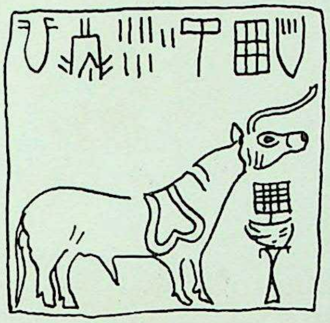
348
•94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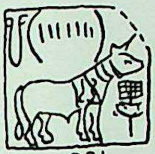
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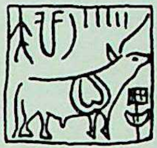
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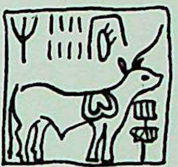
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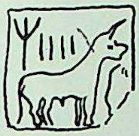

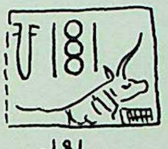
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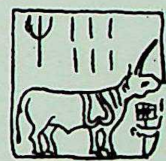
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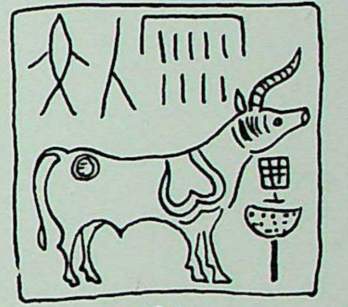
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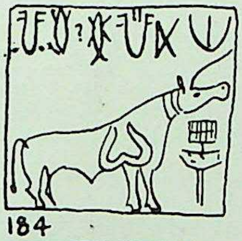
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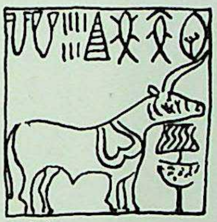
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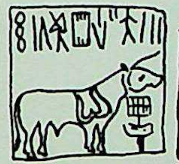
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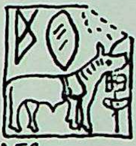
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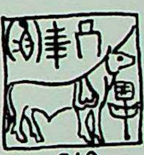
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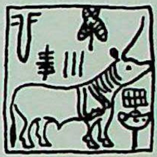
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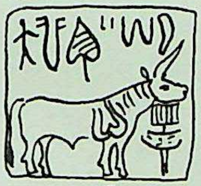
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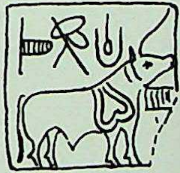
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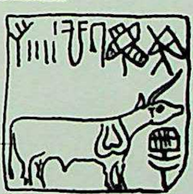
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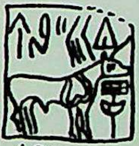
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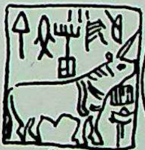
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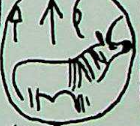
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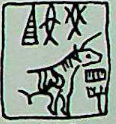
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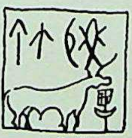
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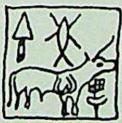
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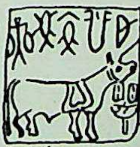
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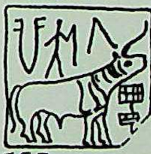
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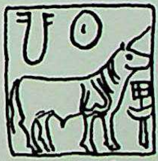
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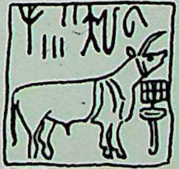
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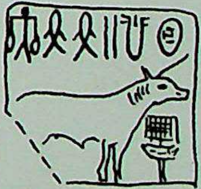
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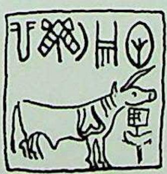
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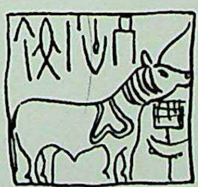
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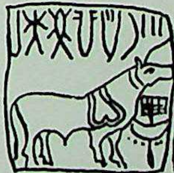
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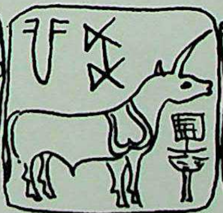
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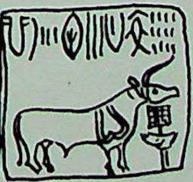
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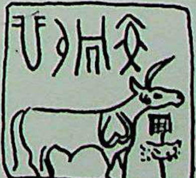
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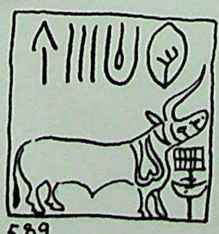
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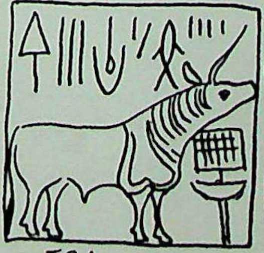
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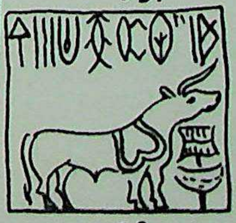
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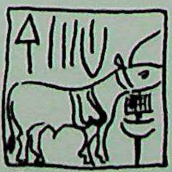
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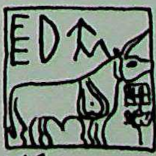
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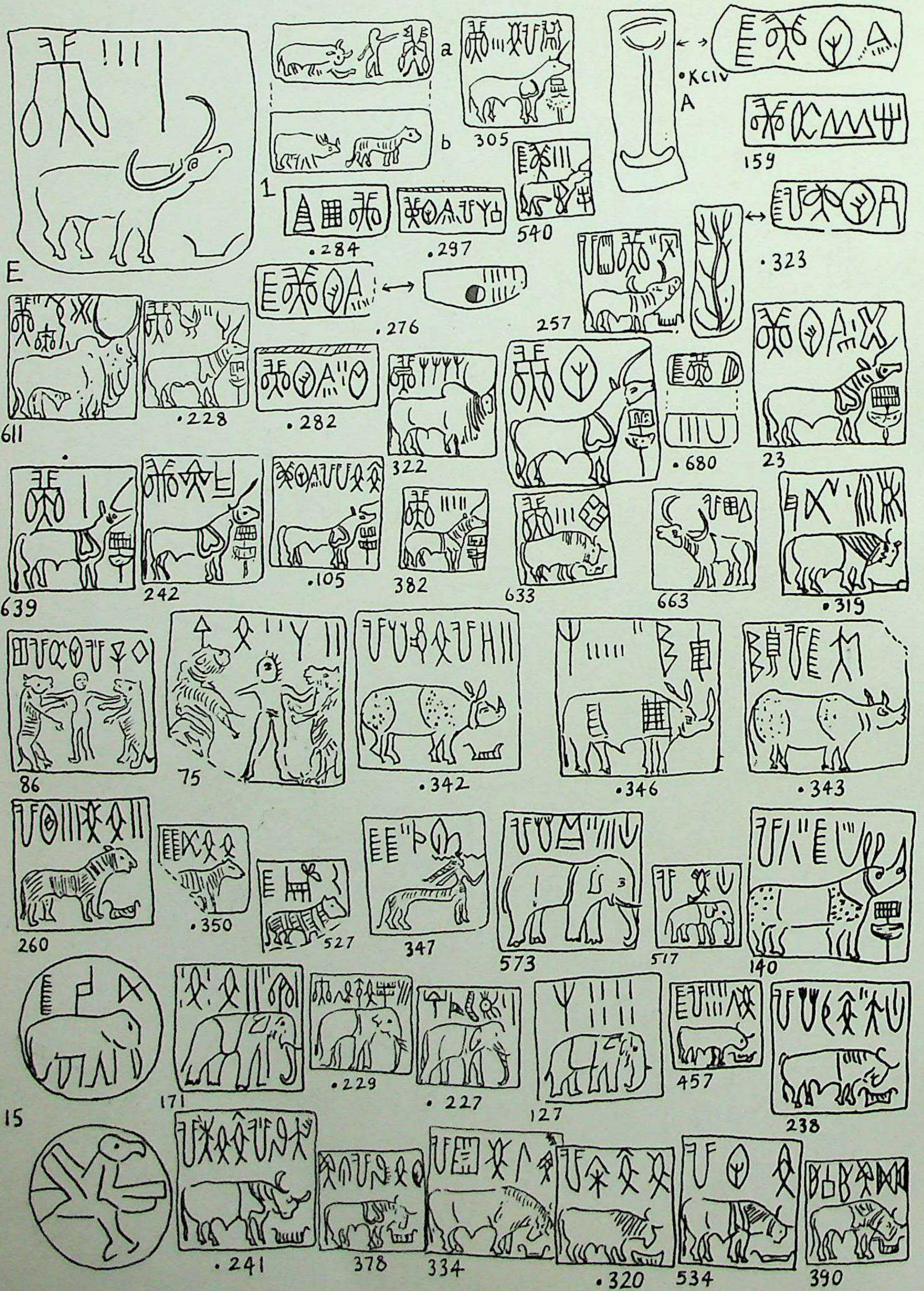
Pl. XXI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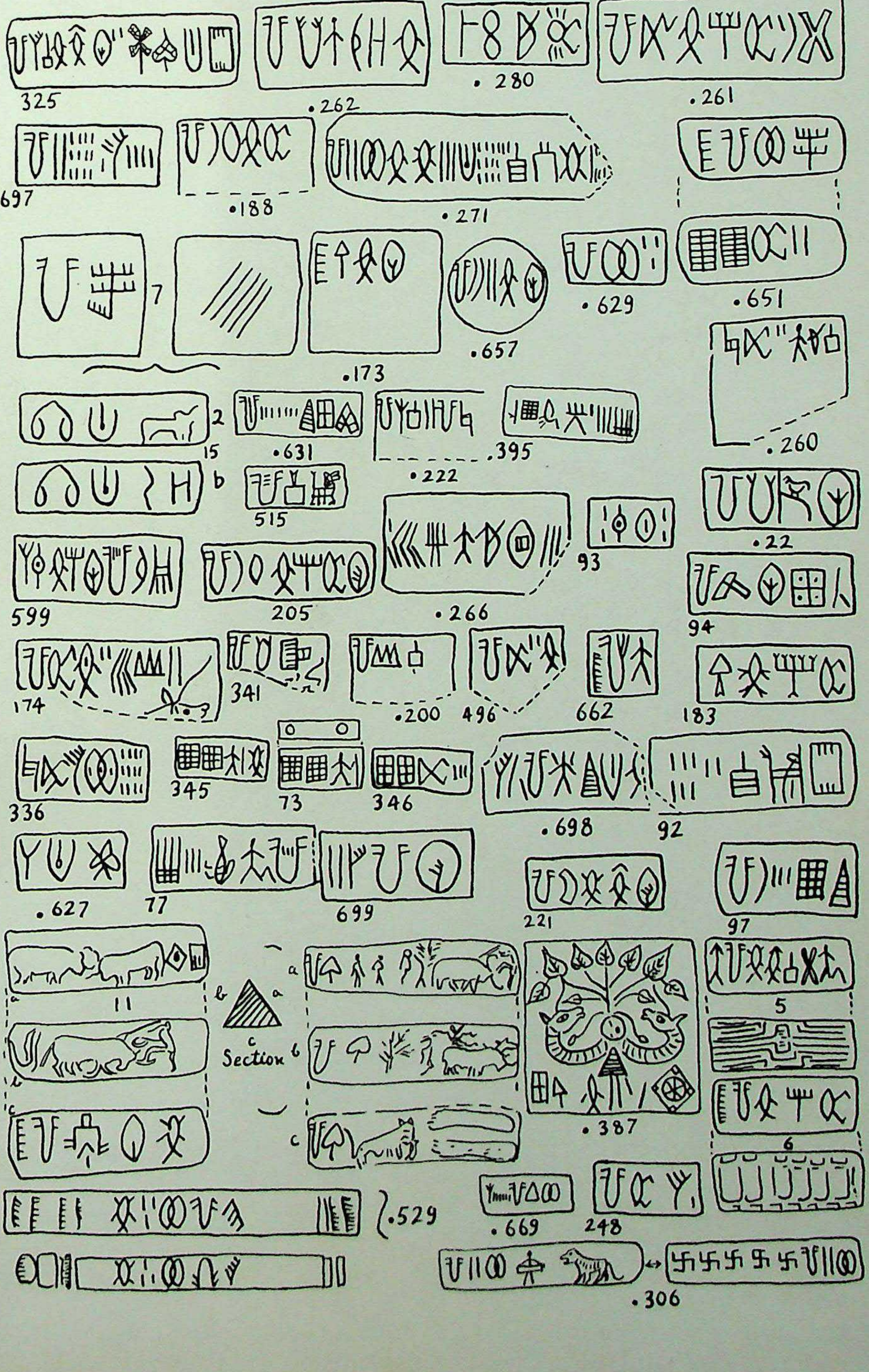
Pl. XXII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b
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• 627
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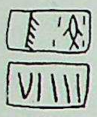
• 306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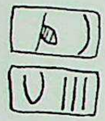
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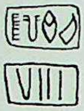
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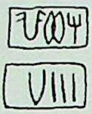
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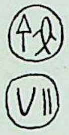
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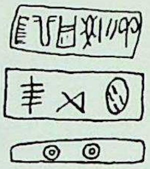
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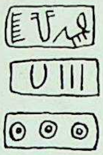
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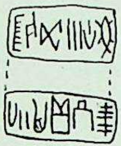
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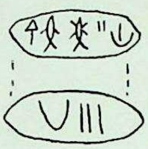
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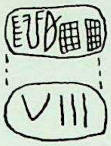
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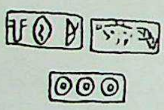
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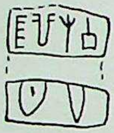
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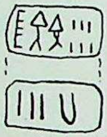
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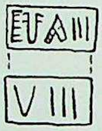
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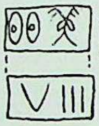
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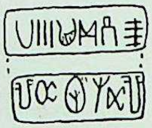
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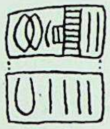
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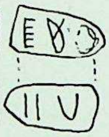
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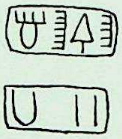
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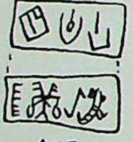
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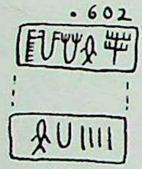
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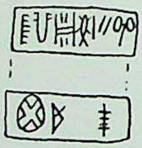
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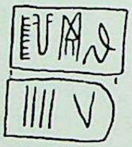
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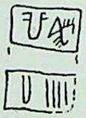
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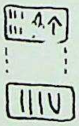
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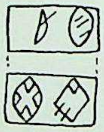
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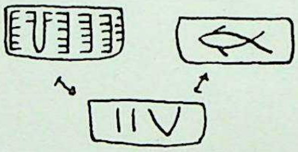
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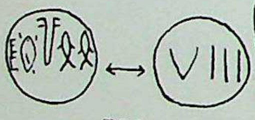
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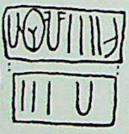
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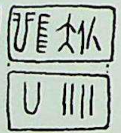
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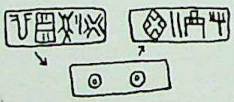
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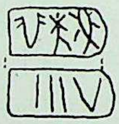
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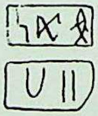
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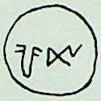
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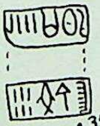
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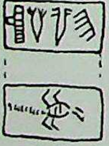
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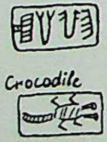

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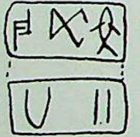
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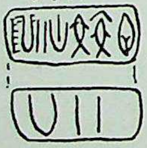
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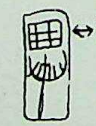
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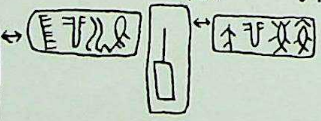
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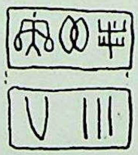
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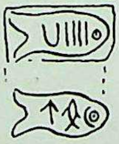
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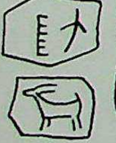
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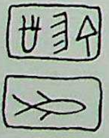
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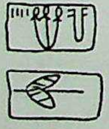
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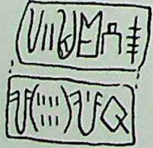
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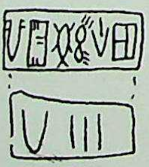
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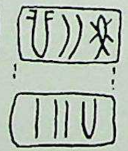
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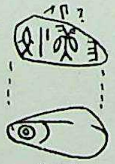
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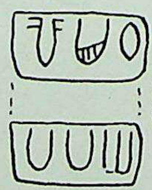
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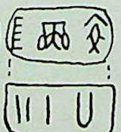
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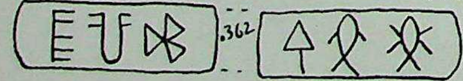
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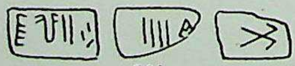
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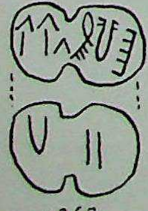
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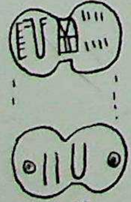
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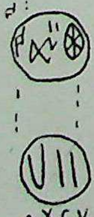
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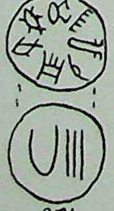
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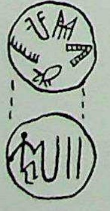
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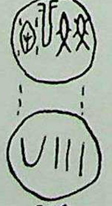
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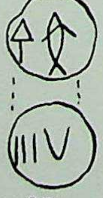
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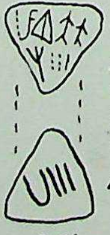
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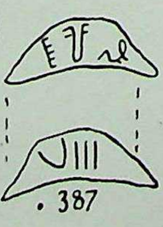
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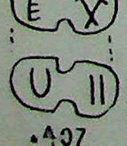
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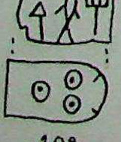
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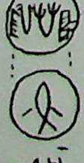
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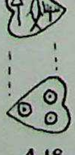
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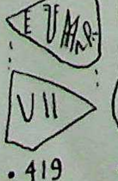
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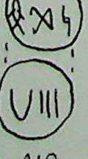
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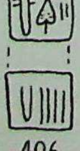
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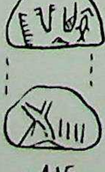
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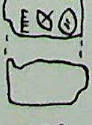
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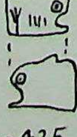
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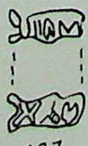
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Bibliography

Albright, W.F. : *The Archaeology of Palestine*, London, 1956.

Apte, V.S. : *Sanskrit, English Dictionary*, Bombay, 1922.

Arcenef, R.K.; Zide and Kamil V, Zvelebil : *The Soviet Decipherment of the Indus valley script Translation and Critique*, Paris, 1976.

Aurobindo, Sri : *On the Veda*, Pondichery, 1956.

Ball, C.J. : *Chinese and Sumerian*. Oxford, 1913.

Barton, Geo. A. : *The Origin and Development of Babylonian Writing*, Baltimore, 1913.

Bibby, G. : *Looking For Dilmun*, New York, 1969.

Bodmer, Frederick : *The Loom of Language*, London, 1961.

British Museum : Trustees of : *How to Observe in Archaeology*, London, 1929.

Chierrva, Edward : *The wrote on Clay*, Chicago, 1962.

Clodd, Edward : *The Story of the Alphabet*, London, 1900.

Cotterll, Leonard :

1. *The Mountains of Pharaoh*, London, 1963.
2. *Lost cities*, London, 1963.
3. *The Bull of Minos*, London, 1963.

Contenau Georges : *Every day life in Babylon and Assyria*, London, 1959.

Cunningham, Alexander : *Book of Indian Eras*, Calcutta, 1883.

Dandekar, R.N. : *Vedic Bibliography*, Vol. I & II, Poona, 1961.

Das, Abinas Chandra : *Rigvedic India*, Vol. I, Calcutta, 1921.

Dales, G.F. : 'A suggested Chronology for Afghanistan, Baluchistan and The Indus Valley', *Chronologies in the The Old World Archaeology*, Chicago.

Devi, Akshaya Kumari : *A Biographical Dictionary of Puranic Personages*, Calcutta.

Diringer, D. : *The Alphabet*, London, 1948.

Driver, G.R. : *Semitic Writing*, London, 1948.

Ehrich, Robert, W. : *Chronologies in Old World Archaeology*, Chicago.

Evans, Sir Arthur : *The Palace of Minos at Knossos*, London, 1921-1967.

Fairservis, W. : *The Roots of Ancient India*, New York, 1971.

Flinders Petrie, W.M. : *A History of Egypt*, London, 1948.

Gardiner, Sir Alan : *Egyptian Grammar* third edition, London, 1957.

Gadd, C.J. : *Seals of Ancient Indian Style found at Ur, Proc. British Academy*, 1932.

Ghosh, A. :

1. The problem of the Protohistoric Culture of India and their Authors, *Proceedings of the Twenty-Fifth International Congress of Oriental*, Moscow, 1960.
2. "The Indus Civilization; Its Origin Authors, Extent and Chronology". *Proceedings of the Seminar on Indian Prehistory and Proto-history*, Poona, 1965.

Gordon, D.H. : *The Prehistoric background of Indian culture*, Bombay, 1958.

Gladstone Bratton, F. : *The Heretic Pharaoh*, London, 1962.

Gune, Pandurang Damodar : *An Introduction to comparative Philology*, Poona, 1970.

Hali, H.R. : *The Ancient History of the Near East*, London, 1924.

Hawkes, Jacquetta and Sir Leonard Woolley : *History of Mankind*, Vol. I, London, 1963.

Heras, H. : A proto Indian Icon., *Journal of Bihar and Orissa Research Society*, Vol. XXIII, Patna, 1937.

Heras, H. :

1. The "Kolikon" is Mohenjodaro, *J.B.O.R.S.*, Vol. I, 1938.
2. 'More about Mohenjodaro', *J.B.O.R.S.*, Vol. I, 1938, pp. 637.

3. Two proto-Indian Inscriptions from Chanhudaro, *J.B.O.R.S.*, Vol. XXII, pp. 308-320, Patna, 1936.

4. The Numerals in the Mohenjodaro Script, *New Indian Antiquary*, Vol. II, pp. 449-59, Bombay, 1939.

Hunter, G.R. : *The Script of Harappa and Mohenjodaro*, London, 1934.

Jastrow, Morris : *The Civilizations of Babylonian and Assyria*, London, 1915.

Knorozov, Yu, V. *et al.* : "Proto Indica", *International Congress of Anthropolitical and Ethnographical Science*, Tokyo, 1968.

Kramer, Samuel Noah : *History Begins at Sumer*, London, 1958.

Krishna Rao, M.V.N. . 1. 'Indus Script—A solutin', *The Hindustan Times*, weekly Magazine, dt. 30.3. 1969, New Delhi.

2. *Sabhyata ki gupta lipi kaise padhi, Dharmayug, Times of India publication*, dt. 1.6. 1969, Bombay.

3. '*Foreign Rulers in Indus Seals*', Radio Carbon and Indian Archaeology, Bombay, 1972.

Kota, Venkatachala Ppakayaji : *Ancient Hindu History*, Part I & II.

Langdon, Stephan : *A Sumerian Grammar and Chrestomathy*, Paris, 1911.

Lal, B.B. : "Indus Script : Inconsistencies in Claims of Decipherment" *The Hindustan Times* Weekly Review, April, 1969.

Lehmanntwinfred, P. : *Historical Linguistics—An Introduction*, 1973.

Lissner, Ivar : *The Living Past*, London, 1957.

Lloyd Seton : *Twin Rivers*, London, 1947.

Mackay, E.J.H. : *Further Excavations at Mohenjodaro*, Delhi, 1938.

Mackenzie, Donald, A. : *Myths of Babylonia and Assyria*, London, 1937.

Mahadevan, I. : *The Indus Script*—Texts, concerdance and Tables, New Delhi, 1977.

Majumdar, R.C. : *The Classical Accounts of India*, Calcutta, 1960.

Mankad, D.R. : *Puranic Chronology*, Anand, 1951.

Macdonell, A.A : 1. *A Vedic Grammar for Students*, London, 1958.

2. *Vedic Index of Names and Subjects*, Vol. I & II, London.

Marshall, Sir John : *Mohenjodaro and the Indus Civilization*, Vol. I & II, London, 1931.

Mercer Samuel A.B. : *A Sumero—Babylonian Sign List*, New York, 1918.

Modes, Dr. Heinz : *The Harappa Culture and the West*, Calcutta, 1961.

Moor House, A.C. : *Writing and the Alphabet*, London, 1946.

Pande B.M. and Ramachandran K.S. : *Bibliography of the Harappan Culture*, Florida, 1971.

Parpola, A. *et al.* : *Decipherment of the Proto – Dravidian Inscriptions of the Indus Civilization*, Copenhagen, 1969.

Pargiter, F.E. : *The Purana Text of the Dynasties of the Kali Age*, London, 1913.

Piggot, Stuart : *Prehistoric India*, London, 1950.

Pradhan, Sita Nath : *Chronology of Ancient India*, Calcutta, 1927.

Pran Nath : 'The Scripts on the Indus Valley seals', *Indian Historical Quarterly*, Vol. VII & VIII – 1932.

Ragozin, Zenaide, A : *Vedic Indian*, Delhi, 1961.

Rao, S.R. :
1. *Lalitkala* Nos. 3-4 Excavations at Lothal, 1957.
2. *Lalitkala* No. 11, Further excavations at Lothal, 1965.
3. "Indus Script Deciphered". *The Illustrated Weekly of India*, December 12th 1971.

Rawlinson, G. : *Ancient Monarchies*, Vol. III, London, 1873.

Ray, S.K. : *Indus Script Memorandum* No. 2, New Delhi, 1965.

Ross, Alan, S.C. : 'The Direction of the Mohenjodaro Script', *New Indian Antiquary*, Vol. II, Bombay, 1939.

Sankalia, H.D. : *Prehistory and Protohistory in India and Pakistan*, Bombay, 1962.

Sankaranda, Swami : *The Indus people speak*, Calcutta, 1955.

Thapar, B.K. : "Ths Aryans : A Reappraisal of the Problem". *India's Contribution to World Thought and Culture*, New Delhi, 1970.

Tilak, B.G. :
1. *Vedic Chronology and Vedanga Jyotisha*, Poona, 1925.
2. *The Origin, the Antiquity of the Vedas*, Poona, 1893.
3. *The Arctic Home in the Vedas*, Poona, 1925.

Van der Meer, P. : *The Chronology of Ancient Western Asia and Egypt*, Leiden, 1925.

Vats, M. :
1. *Excavations at Harappa*, New Delhi, 1940.
2. *Excavations at Harappa*, New Delhi, 1944.

Weddel, L.A. : *The Indo-Sumerian Seals Deciphered*, London, 1925.

Wheeler, R.E.M. : *Indus Civilization*, Cambridge, 1960.

Williams, Sir Monier : *A Dictionary of English and Sanskrit*, Lucknow, 1957,

Whorf, Benjaminlee : *Language Thought and Reality*, Cambridge.

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